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# Global Motor Systems Network



## EMSA Newsletter no. 1/2013 - Zurich April 2013

Welcome to the latest edition of the Electric Motor Systems Annex ([EMSA](#)) Newsletter. The number of our readers is ever-growing, now reaching some 3'235 people from 72 countries. We appreciate your valuable feedback and comments. We also invite you to join the expert discussions at the new [Motor Systems Forum](#).

## Events

### Industrial Automation Conference in Austria

Join IHS experts and industry leaders to discuss key factors that are impacting the direction and growth of industrial automation at the Industrial Automation Conference 2013, being held in Vienna, Austria from 1 to 2 October 2013. For more information contact [Fay.Hamilton@ihs.com](mailto:Fay.Hamilton@ihs.com) or [Bob.Perez@ihs.com](mailto:Bob.Perez@ihs.com).



### EEMODS'13 in Brazil

The international conference on energy efficiency in motor driven systems [EEMODS'13](#) will be held from 28 to 30 October 2013 in Rio de Janeiro, Brazil. Draft papers of accepted abstracts are due by 10 May 2013.



Schweizerische Agentur für Energieeffizienz  
Swiss Agency for Efficient Energy Use

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# MOTOR SUMMIT 2012

The last [Motor Summit](#) took place in Zurich Switzerland from 5 to 6 December 2012 with three EMSA Workshops (Policy, Motor Tools, Testing) on 4 December 2012 at the same venue.

Presentations, proceedings and pictures: [www.motorsummit.ch](http://www.motorsummit.ch).

Articles about the Motor Summit 2012 in:

- [Electroindustry Magazine](#) (January 2013) of the National Electrical Manufacturers Association
- [Control Engineering](#) (February 2013)



## Regulations and awards

## Update on minimum requirements in China

### Small and medium motors

*Scope:* three-phase asynchronous electric motors 0.75 kW - 375 kW

*Status:*

- Published: [GB 18613-2012](#)
- IE2 minimum requirement from 1 September 2012



### Small-power motors

*Scope:*

- three-phase asynchronous motors: 10 W - 2 200 W with a voltage no more than 690 V and powered by 50 Hz AC;
- capacitor run asynchronous motors;
- capacitor start asynchronous motors;
- two-value capacitor asynchronous motors;
- room air conditioner fan motors.

*Status:* published: [GB 25858-2010](#)

### Permanent magnet synchronous motors

*Scope:* 1.1 kW - 375 kW

*Status:* [draft standard](#) published, call for comments closed

### High-voltage motors

*Scope:* 185 kW - 22 500 kW according to the technology

*Status:* [draft standard](#) published, call for comments closed

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## New regulations in the European Union

### Energy efficiency directive 2012/27/EU

The European Union (EU) adopted [Directive 2012/27/EU](#) on energy efficiency on 25 October 2012, setting out a framework of measures to achieve the 20% energy efficiency goal of the EU by 2020. According to article 8 of the directive, small and medium-sized enterprises shall be encouraged to undertake energy audits. Larger enterprises must conduct an energy audit by 5 December 2015 and at least every four years after the previous audit. Enterprises with a certified energy or environmental management system are exempted, if the management system includes an energy audit.

More information: [www.ec.europa.eu/energy/efficiency/eed/eed\\_en.htm](http://www.ec.europa.eu/energy/efficiency/eed/eed_en.htm)



### Ecodesign Lot 30 for special motors

A new preparatory study for implementing measures of the Ecodesign Directive Lot 30 for electric motors and variable frequency drives **outside** the existing European motor regulation 640/2009 has been started under the leadership of Anibal De Almeida, University of Coimbra, Portugal, covering:

- motors from 0.12 kW up to 1 000 kW;
- special-purpose inverter duty motors (asynchronous servo motors);
- permanent magnet motors;
- motors cooled by their load (fans);
- motors with variable frequency drives from 200 W–1 000 kW.

All documents are available under [www.eco-motors-drives.eu](http://www.eco-motors-drives.eu).

### Ecodesign Lot 31 for compressors

The Ecodesign preparatory study for a technical, environmental and economical analysis of compressors is expected to be finalised by March 2014. The first stakeholder meeting was held on 14 March 2013 in Brussels. The current [draft study](#) proposes to focus on compressors driven by three-phase electric motors in the product scope.

Excluded will be:

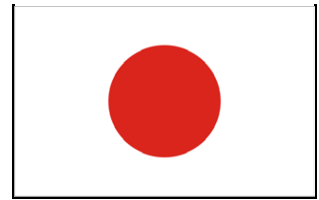
- compressors for use in heating or cooling applications,
- compressors that are vacuum pumps.

More information: [www.eco-compressors.eu](http://www.eco-compressors.eu)

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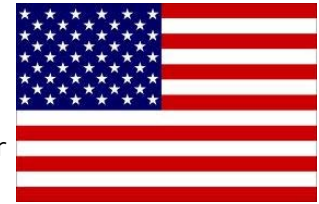
## Japan: electric motors to be included in Toprunner program from 2015

Japan is issuing a Target Scope based on the Act on the Rational Use of Energy. It uses as Reference Data for a Target Scope of Regulation the



Japanese Industrial Standard JIS C 4034-30 Rotating electrical machines - Part 30: "Efficiency classes of single-speed, three-phase, cage-induction motors (IE code)". The target level effective in the fiscal year 2015 will be set at IE3 Premium Efficiency for both 50 Hz and 60 Hz machines. Some exceptions are set between IE2 and IE3 only.

### USA considering energy conservation standards for commercial and industrial pumps, fans & blowers



The US Department of Energy (DoE) is considering developing energy conservation standards for commercial and industrial pumps and commercial and industrial fans and blowers. The Framework Documents for both [pumps](#) and [fans and blowers](#) are available since 1 February 2013, laying out the process and methodology for evaluating the potential new standards. Comments are received until 2 May 2013 at the following links:

- [comments pumps](#)
- [comments fans and blowers](#)

Summary of current rulemakings and notices:

[www1.eere.energy.gov/buildings/appliance\\_standards/current\\_rulemakings-notices.html](http://www1.eere.energy.gov/buildings/appliance_standards/current_rulemakings-notices.html)

### Energy Efficiency Award 2013 for enterprises in industry



The [German Energy Agency](#) invites enterprises from industry of any size to submit energy efficiency projects for the international [Energy Efficiency Award 2013](#) until 30 June 2013. A list of up to 15 project nominations will be published in September 2013. Winners will be announced on 25 November 2013 and awarded with 30'000 EUR in total.

Find more information in the [leaflet](#) or visit [www.EnergyEfficiencyAward.de/en](http://www.EnergyEfficiencyAward.de/en).

### SEAD Global Efficiency Medal Competition for Electric Motors

The [Draft Rules](#) for the [SEAD Global Efficiency Medal Competition for Electric Motors](#) have been published. Comments were received until 22 March 2013. The final program rules are expected to be published in April 2013 and winners selected by early 2014.

More information: [www.superefficient.org/MotorAwards](http://www.superefficient.org/MotorAwards)

The Super-Efficient Equipment and Appliance Deployment ([SEAD](#)) Initiative of the [Clean Energy Ministerial](#) and the International Partnership for Energy Efficiency Cooperation ([IPEEC](#)) helps participating governments accelerate the transition to a clean energy future through effective appliance and equipment efficiency programs.



## Technical standards

### International IEC standards

#### More precise tests for the efficiency determination for electric motors

The revision of the general test method of electric motors [IEC 60034-2-1](#) is well under way. The efficiency determination procedures have been defined more precisely. A preferred method has been defined. The comments to the draft will be discussed in the May 2013 meeting. A final FDIS will be ready for vote by the end of 2013.



#### Testing converter-fed motors accurately

The work on the standard [IEC TS 60034-2-3](#) for converter-fed motors is

progressing. A series of tests in Australia, Canada and Europe have been made to secure the accuracy of the test method. The comments to the draft Technical Specification will be discussed in May 2013. The final IEC TS 60034-2-3 will be published before the end of 2013.

### Expanded scope for efficiency classification of motors

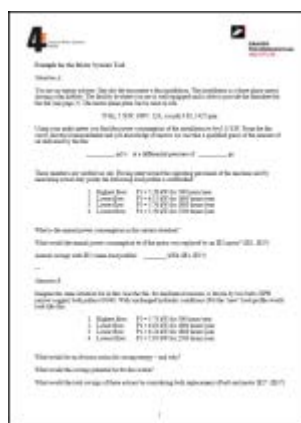
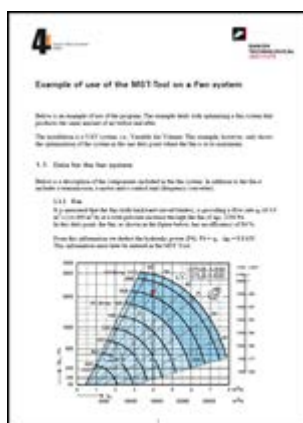
The efficiency classes for motors in **IEC 60034-30-1** have been revised and expanded. The scope is now 0.12 kW up to 1 000 kW for 2-, 4-, 6- and 8-pole motors with 50 Hz and 60 Hz capable to be run online. The comments to the draft will be discussed in the May 2013 meeting. The final FDIS will be ready for vote by the end of 2013.

## Resources

### EMSA Motor Systems Tool

#### Calculation example and exercise

An [example](#) for optimizing a fan system with the [Motor Systems Tool](#) and an [exercise](#) for calculating annual power consumption and possible savings of a fan installation are now available:



### Motor Systems Tool Version 1.53

The new version of the [Motor Systems Tool](#) includes gear models, a better support for US users and is more compatible with computers in Asia [www.motorsystems.org/motor-systems-tool](http://www.motorsystems.org/motor-systems-tool)

### DOE eGuide for ISO 50001

The US Department of Energy's [DOE eGuide for ISO 50001](#) helps organizations establish an energy management system. Organizations who wish to get acquainted with the basics of energy management can consult the [DOE eGuide Lite](#).

What is the DOE eGuide for ISO 50001?

The DOE eGuide for ISO 50001 is a toolkit designed to help organizations implement an energy management system through an organized step by step process. It includes forms, checklists, templates, examples, and guidance to assist the Energy Champion and Energy Team throughout the implementation process.

### IIP Industrial Efficiency Database

The [Institute for Industrial Productivity](#) (IIP) has published two new databases:

- The [Industrial Efficiency Programs Database](#) provides information on energy management and utility obligation programs in Australia, Canada, China, Europe and the USA.
- The [Industrial Efficiency Financing Database](#) provides information on successful financing programs, products and mechanisms for increased industrial energy efficiency.

IIP has also recently enhanced its [resources library](#) with more than 200 industrial energy efficiency reports from the USA.

More information: [www.iipnetwork.org](http://www.iipnetwork.org)



You can subscribe to the EMSA Newsletter in English, German, Chinese, Japanese and Russian and

download backup copies: [www.motorsystems.org/newsletter](http://www.motorsystems.org/newsletter)

If you have any questions or you are running a national motor efficiency program: tell us!

Best regards from Zurich Switzerland,

Conrad U. Brunner & Rita Werle

EMSA Operating Agent & Coordinator

EMSA is the **Electric Motor Systems Annex** of the International Energy Agency's Implementing Agreement on **Efficient Electrical End-Use Equipment 4E**. Currently Australia, Austria, Denmark, Netherlands, USA and Switzerland participate actively in EMSA. Canada, France, Japan, Korea, Sweden and United Kingdom participate in other 4E Annexes.

The second EMSA program phase is running until 2014.

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