

New efficiency classes, IE2 and IE3

EU directive, No. 640/2009, 22 July 2009, defines the introduction of the new efficiency classes for electric motors. Unlike the present rules, which are an agreement between motor manufacturers and EU, the new rules are European law.

The introduction of the new classes will according to the directive be made as follows:

- 16. June 2011, all motors between 0,75 – 375kW must fulfil the IE2 efficiency requirements.
- 1. Jan. 2015, all motors between 7,5 – 375kW must fulfil the IE3 requirements.
- 1. Jan. 2017, all motors between 0,75 - 375kW must fulfil the IE3 requirements.

The directive also defines standards for marking the motors. The efficiency and the efficiency class are to be clearly identifiable from the nameplate. Furthermore the directive introduces new demands for control of the efficiency of the motors. The EU member countries are to conduct random controls on a continuous basis of the motors introduced to the market.

New standards

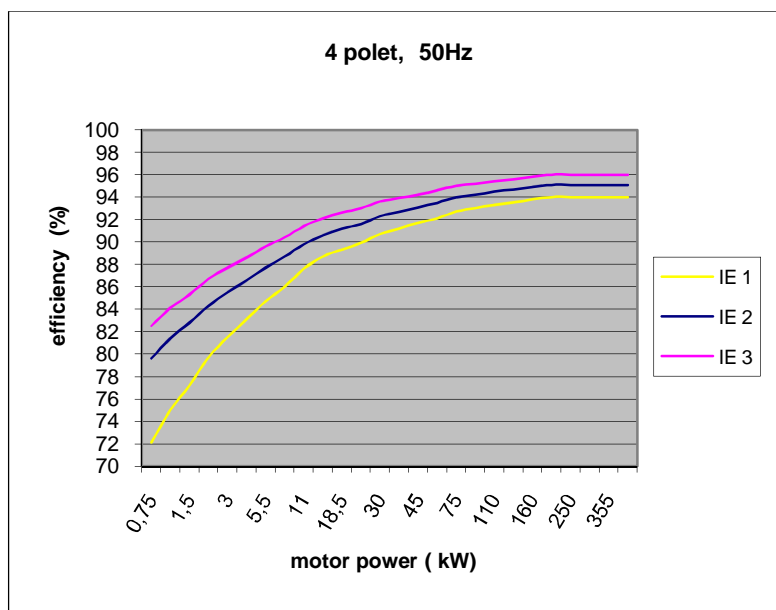
A new IEC standard, IEC 60034-30, efficiency classes for single speed, three phase, cage induction motors, that divides the motors into three 3 categories according to the level of efficiency (IE code) is introduced.

Simultaneously, a new standard (IEC 60034-2-1) for testing electric motors which introduces new rules for calculating the efficiency is put in force. The new standard for testing will result in a lower efficiency on the motor, compared to testing according to the previous standard.

The new efficiency classes

IEC 60034-30 determines 3 classes.

- **IE1**, standard efficiency, replaces the present EFF2
- **IE2**, high efficiency, replaces the present EFF1
- **IE3**, premium efficiency, corresponding to the present rules for premium efficiency motors for USA and Canada.



Minimum efficiency for 4 pole motors at 50Hz

The new efficiency classes apply to:

- 2, 4 and 6 pole motors
- 0,75 kW to 375kW
- Nominal voltage < 1000V
- Continuous duty, S1

The following motors are excluded from the new rules:

- Motors submerged in fluid
- Motors fully integrated in another product
- Motors constructed for duty:
 - o more than 1000 meters above sea level
 - o where ambient temperature exceed 40° C.
 - o at maximum running temperature exceeding 400° C.
 - o where ambient temperature is below -15° C. (all motors) or below 0° C. (motors with air cooling).
 - o in explosive atmosphere as defined in EU directive 94/9
- Brake motors
- Motors for intermittent duty, S2 – S9

Transitional period

After 16. June 2011 companies are still allowed to trade and install motors not fulfilling the requirements of IE2, if the motors are manufactured and located within the EU borders before 16. June 2011.

Hoyer Motors

Hoyer Motors is ready with 2 new designed series of motors, HMA2 aluminium motors frame size ≤ 132 , og HMC2 cast iron motors frame size 160 to 400.

Hoyer Motors is also able to supply EFF2 motors from our large stock after 16. June 2011.

Contact our sales department on +45 86 98 22 55 already now and make sure action is taken on your demand of either EFF2 or IE2 motors!