Efficiency requirements for electric motors

1. Since 1. January 2017:

Three-phase AC motors with rated output of **0,75 kW ≤ P_n ≤ 375 kW** and **2, 4 or 6 poles** shall correspond to at least the **IE3** efficiency level or **IE2 with a variable speed drive** (in the following: **VSD**).

Major exemptions:

I) Explosion-proof motors (Ex-motors)
II) Brake motors
III) Submersible motors
IV) Motors completely integrated into a product (whose energy performance cannot be tested independently from the product)
V) Motors with multi-winding more specifically pole-changing winding

2. Starting from 1. July 2021:

Three-phase AC motors with rated output of **0,12 kW ≤ P_n < 0,75 kW** and **2, 4, 6 or 8 poles** shall correspond to at least the **IE2** efficiency level.

Three-phase AC motors with rated output of **0,75 kW ≤ P_n ≤ 1000 kW** and **2, 4, 6 or 8 poles** shall correspond to at least the **IE3** efficiency level **(IE2 with a VSD is no longer applicable!)**.

Motors that will also be subject to the regulation in the future:

a) Motors with mounted brakes
b) All Explosion-proof motors except Ex eb-Motors (increased safety) and motors group I (mining motors)
c) Motors completely integrated into a product but can be tested by mounting a temporary end shield and bearing

In addition these motors exempted from the **requirements:**

I) Motors without fan (TENV)
II) Spare motors for identical motors that are purchased until 1.7.2022 (valid until 30.06.2029)

3. Starting 1. July 2023:

Ex eb-Motors (increased safety) and **single-phase motors** with rated output of **0,12 kW ≤ P_n ≤ 1000 kW** and **2, 4, 6 or 8 poles** shall correspond to at least the **IE2** efficiency level

Three-phase AC motors with rated output of **75 kW ≤ P_n ≤ 200 kW** and **2, 4 or 6 poles** shall correspond to at least the **IE4** efficiency level. Ex-motors as well as brake motors can still delivered in IE3 efficiency level.

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