

Energy Using Product (EuP) Directive Preparatory Study

Lot 11: Motors **Summary on Product Definition**

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Product definition Motors 1–150 kW

- **Type of Motor - AC Induction Motors largely dominate energy use in that power range; DC motors are a small shrinking fraction of the market**
- **Number of Phases - 3 PHASE AC induction motors largely dominate integral hp market; Single phase motors represent a small part of the electricity consumption in that power range;**
- **Power range 1–150 kW is quoted in the terms of reference, but a lower bound of 0.75 kW and an upper bound such as 200 kW was discussed to take into account standard power sizes and market sales in both power boundaries.**

Product Definition

-Motor Type, Power range and Models

Agreed in the discussion:

1-Motor type: General purpose 3-phase induction motors,

2-Number of poles: 2, 4 and 6 pole

3-Power range 0.75-200 kW, for 2,4 pole

0.75-132 kW, for 6 pole

The power lower limit for the 6 pole motor is due to the required frame size

Product definition :

4- Number of poles: 2;4 and 6

5- Voltage: 400 V,

6- Frequency: 50 Hz

7- Single-speed

8- Continuous duty

- **Discussion on General purpose Induction motors**
 - General purpose Induction motors have by far the large sales and energy consumption; **foot, face and flange mounted motors** (covered by Motor Standard EN 50347) **need to be considered**
- **The integration of special induction motors in the analysis (e.g. explosion proof, high humidity applications) will be assessed with the stakeholders**

Definition of Basecase for the Products under consideration

–Selection of average EU representative model(s) or construction of average EU model(s) characteristics from several important product-subcategories in the product group.

Agreed in the discussion

- Base case: EFF2 -average of range for each power level
- Models for analysis
4 pole modes (more than 50% of sales) are going to be used in the analysis

two options - 1.5, 7.5, 75 and 132 kW or
- 1.5, 11 and 90 kW

If data available, analysis of 4 models would be desirable

Definition of the Best Available Technology

Agreed in the discussion

-Best available technology (BAT):

Eff1, with two options:

- Average of all motors in each power level
- Premium levels (15% lower losses than minimum EFF1 performance)

-Best Next Available Technologies (BNAT)

- Different technological options to be discussed with the stakeholders