Manufacturer’s statement
ACS850-04 and IE4 SynRM motor package efficiency

Drive: ACS850-04-094A-5
Motor: M3BL 250SMF, 3GBL252104-ASC, \( P_n = 37 \text{ kW}, 1500 \text{ rpm} \)

**Speed** | **Speed %** | **P/P_n** | **Package efficiency**
--- | --- | --- | ---
50 %** | 750 | 13 %** | 87,8 %
63 % | 945 | 25 % | 90,4 %
75 % | 1125 | 42 % | 91,9 %
80 % | 1200 | 51 % | 92,3 %
91 % | 1365 | 75 % | 92,8 %
100 %** | 1500 | 100 %** | 93,1 %*

*Estimated tolerance according to IEC 60034-1:
  \( \leq 150\text{kW}: 0.15 \times (100 - \text{package efficiency} (\%)) \text{ at the nominal point} \)
  \( > 150\text{kW}: 0.10 \times (100 - \text{package efficiency} (\%)) \text{ at the nominal point} \)

**Measurement points according to EN 50598-2 (will be published 2014)
Package efficiency [%] for applications with other load characteristics:

![Graph showing efficiency levels across different power ranges and load torques.]

Color scales are comparable within following power ranges:
- 1 to 3 kW
- >3 to 15 kW
- >15 to 350 kW

**Points of measurement**

| Mechanical Power P2 | Electrical Power P1 |

Efficiency $\eta = \frac{P2}{P1}$

Efficiency measurements were made at:

<table>
<thead>
<tr>
<th>Location</th>
<th>Note</th>
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<tbody>
<tr>
<td>ABB verification laboratory, Vaasa</td>
<td>X</td>
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<td>ABB verification laboratory, Västerås</td>
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<td>ABB verification laboratory, Helsinki</td>
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