Wide range of low voltage motors – suitable for all industries and applications, fulfilling all international and national efficiency regulations.
**IEC Low voltage motors**

<table>
<thead>
<tr>
<th>Product type</th>
<th>General performance motors</th>
<th>Process performance motors</th>
<th>Synchronous reluctance motors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency classes</td>
<td>$\text{M2BAX}$</td>
<td>$\text{M3BP}$</td>
<td>$\text{M3AL, M3BL}$</td>
</tr>
<tr>
<td>$\text{IE1, IE2, IE3}$</td>
<td>$\text{IE2, IE3, IE4 (frame sizes 160 – 355)}$</td>
<td>$\text{IE2, IE3}$</td>
<td>up to IES</td>
</tr>
<tr>
<td>IEC Frame sizes</td>
<td>$\text{71 – 355}$</td>
<td>$\text{71 – 450}$</td>
<td>IES range: 132 – 315</td>
</tr>
<tr>
<td>Power range</td>
<td>$\text{0.25 – 355 kW}$</td>
<td>$\text{0.25 – 1000 kW}$</td>
<td>High output range: 90 – 315</td>
</tr>
<tr>
<td>Poles</td>
<td>$\text{2 – 6}$</td>
<td>$\text{2 – 12}$</td>
<td>1.1 – 350 kW</td>
</tr>
<tr>
<td>Voltage</td>
<td>$\text{230 – 690 V}$</td>
<td>$\text{230 – 690 V}$</td>
<td>1000 – 3000 r/min</td>
</tr>
<tr>
<td>Frequency</td>
<td>$\text{50 Hz, 60 Hz}$</td>
<td>$\text{50 Hz, 60 Hz}$</td>
<td>–</td>
</tr>
<tr>
<td>IP Class</td>
<td>$\text{up to IP 56}$</td>
<td>$\text{up to IP 66}$</td>
<td>–</td>
</tr>
<tr>
<td>Cooling</td>
<td>$\text{IC411, IC416}$</td>
<td>$\text{IC410, IC411, IC416, IC418}$</td>
<td>$\text{IC410, IC411, IC416, IC418}$</td>
</tr>
<tr>
<td>Starting</td>
<td>$\text{DOL, VSD}$</td>
<td>$\text{DOL, VSD}$</td>
<td>$\text{VSD}$</td>
</tr>
<tr>
<td>MEPS</td>
<td>$\text{EU, CN, AU}$</td>
<td>$\text{EU, CN, AU, BR, KR, USA, CA}$</td>
<td>$\text{EU, CN, AU, BR, KR, UL, RS, SARS}$</td>
</tr>
<tr>
<td>Certification</td>
<td>Marine</td>
<td>Marine</td>
<td>Marine</td>
</tr>
<tr>
<td>Protection type</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Suggested applications and industries.</td>
<td>Pumps, fans, conveyors, food and beverage machinery, compressors, general machinery.</td>
<td>Pumps, fans, compressors, crushes, mills, centrifugal machines, presses, grinders and general process applications.</td>
<td>Pumps, fans, compressors, extruders, conveyors, mixers.</td>
</tr>
</tbody>
</table>
# IEC Low voltage motors

## Motors for explosive atmospheres

<table>
<thead>
<tr>
<th>Flameproof</th>
<th>Increased safety Ex eb</th>
<th>Increased safety Ex ec</th>
<th>Dust ignition proof Ex t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified for maximum safety, for environments with gas explosion risk.</td>
<td>Certified for maximum safety, for environments with gas explosion risk.</td>
<td>Certified for maximum safety, for environments with gas explosion risk.</td>
<td>Certified for maximum safety, for environments with dust explosion risk.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product type</th>
<th>M3JP, M3KP</th>
<th>M3HP</th>
<th>M3GP, M3AA</th>
<th>M3GP, M3AA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency classes</td>
<td>IE2, IE3</td>
<td>IE2</td>
<td>IE2, IE3</td>
<td>IE2, IE3</td>
</tr>
<tr>
<td>IEC Frame sizes</td>
<td>80 – 450</td>
<td>80 – 400</td>
<td>M3GP 71 – 450</td>
<td>M3GP 71 – 450</td>
</tr>
<tr>
<td>Power range</td>
<td>0.55 – 950 kW</td>
<td>0.55 – 390 kW</td>
<td>0.25 – 1000 kW</td>
<td>0.25 – 1000 kW</td>
</tr>
<tr>
<td>Poles</td>
<td>2 – 12</td>
<td>2 – 8</td>
<td>2 – 12</td>
<td>2 – 12</td>
</tr>
<tr>
<td>Frequency</td>
<td>50 Hz, 60 Hz</td>
<td>50 Hz, 60 Hz</td>
<td>50 Hz, 60 Hz</td>
<td>50 Hz, 60 Hz</td>
</tr>
<tr>
<td>IP Class</td>
<td>up to IP 66</td>
<td>up to IP 66</td>
<td>up to IP 66</td>
<td>up to IP 66</td>
</tr>
<tr>
<td>Cooling</td>
<td>IC411, IC416, IC418</td>
<td>IC411</td>
<td>IC411, IC416, IC418</td>
<td>IC411, IC416, IC418</td>
</tr>
<tr>
<td>Starting</td>
<td>DOL, VSD</td>
<td>DOL</td>
<td>DOL, VSD</td>
<td>DOL, VSD</td>
</tr>
<tr>
<td>MEPS</td>
<td>EU, CN, AU, BR</td>
<td>–</td>
<td>EU, CN, AU, BR</td>
<td>EU, CN, AU</td>
</tr>
<tr>
<td>Certification</td>
<td>IECEx/ATEX, CU-TR, CQST, Inmetro, marine</td>
<td>ATEX</td>
<td>IECEx/ATEX, CU-TR, CQST, Inmetro, cUL, marine</td>
<td>IECEx/ATEX, CU-TR, CQST, Inmetro, marine</td>
</tr>
<tr>
<td>Protection type</td>
<td>Ex d IIB or C T4 Gb and Ex de IIB or C T4 Gb</td>
<td>Ex ec IIC T3 Gb</td>
<td>Ex ec IIC T3 Gc</td>
<td>For zone 21: EPL Db, T 125°C, IP65 For zone 22: EPL Dc, T 125°C, IP55 or IP65 Dust groups IIIB and IIIC</td>
</tr>
<tr>
<td>Suggested applications and industries</td>
<td>Applications where explosion hazards may exist due to flammable gases, flammable and combustible liquid-vapors.</td>
<td>Applications where explosion hazards may exist due to flammable gases, flammable and combustible liquid-vapors.</td>
<td>Applications where explosion hazards may exist due to flammable gases, flammable and combustible liquid-vapors.</td>
<td>Applications where explosion hazards may exist due to flammable dust.</td>
</tr>
</tbody>
</table>
IEC Low voltage motors

IEC Food Safe stainless steel motors

Uncompromised hygienic solution, easy to clean.

<table>
<thead>
<tr>
<th>Product type</th>
<th>M3MA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency classes</td>
<td>IE3</td>
</tr>
<tr>
<td>IEC Frame sizes</td>
<td>71 – 132</td>
</tr>
<tr>
<td>Power range</td>
<td>0.25 – 7.5 kW</td>
</tr>
<tr>
<td>Poles</td>
<td>2 – 6</td>
</tr>
<tr>
<td>Voltage</td>
<td>230 – 690 V</td>
</tr>
<tr>
<td>Frequency</td>
<td>50 Hz, 60 Hz</td>
</tr>
<tr>
<td>IP Class</td>
<td>IP69</td>
</tr>
<tr>
<td>Cooling</td>
<td>IC410 – sizes 71 – 90 IC411 – sizes 100 – 132</td>
</tr>
<tr>
<td>Starting</td>
<td>DOL, VSD</td>
</tr>
<tr>
<td>MEPS</td>
<td>EU, CN, AU, US</td>
</tr>
<tr>
<td>Certification</td>
<td>CE, cULus (US &amp; Canada), CCC (China)</td>
</tr>
<tr>
<td>Protection type</td>
<td>–</td>
</tr>
</tbody>
</table>

Suggested applications and industries: Food and beverage – meat, poultry, fish, dairy, beverage – where high food safety is essential.

ABB Ability™ Smart Sensor for motors

Condition monitoring solution enabling predictive maintenance for motors. By monitoring the condition and performance of their motors - vibration, bearing condition, misalignment, temperature - users can avoid unexpected downtime, optimize efficiency and improve safety.

- For induction motors, frame sizes 56 – 450 (IEC)
- Available as option
- Can be easily retrofitted to existing motors (ABB and non-ABB motors)

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