



**HAVELLS**

**IE2 & IE3**

**ENERGY EFFICIENT**

**3 PHASE**

**LV INDUCTION MOTORS**

Prima Series



# Prima Series

## IE3 & IE2 Motors

Havells is a leading manufacturer of low voltage induction motors in India, We manufacture wide range of energy efficient motors 100% in house, our state-of-the-art manufacturing facility located at Neemrana, Rajasthan; it is one of the largest LV motor plant in India, here we manufacture energy efficient IE2 & IE3 Motors ranging from 0.18 kW to 315 kW (0.25 HP to 425 HP).

Havells IE2 & IE3 efficient motors confirm to IEC 60034/IS12615 :2018 Standards, these motors have been successfully working across all sectors and in all possible applications, Havells IE2 & IE3 Motors are preferred choice of various Industries due to their performance and reliability.

Havells is committed to manufacturing excellence and providing world class quality products at affordable prices. Havells offers a complete solution which is not only safe and reliable but also saves energy. We will continue the same tradition with our motors also.

## Havells IE2 and IE3 LV safe area motors for various applications



The IE Efficiency classes defined as:

IE2-High Efficiency

IE3 – Premium Efficiency

## Havells LV IE2 and IE3 Motor general specifications :

• Voltage	:	Rated voltage $\leq 1000$ V
• Output	:	Rated output 0.37 kW to 315 kW
• No of Poles	:	2, 4, 6 & 8 poles
• Frame Dimensions	:	Meet frame size to output relation as covered in IS:1231 & IS/IEC 60072-1
• Ambient Temperature	:	Designed for an ambient temperature not exceeding 50 °C and altitude not exceeding 1000 meter.
• Balance Voltage	:	Designed for operation on virtually sinusoidal and balanced Voltage conditions as defined in 7.2.1 of IS/IEC 60034-1
• Degree of protection	:	Degree of protection IP55
• Cooling Method	:	Method of cooling IC411 in accordance with IS 6362/IEC 60034-6

\*Other non standard features also available as per applicaiton requirement

### Advantages of Havells low voltage Induction Motors

- High efficiency
- Reduced lifecycle cost
- Short payback period
- Optimized cooling system for better operation and reduced noise
- Excellent aesthetic design
- Highly reliable under most demanding conditions

### Cost effectiveness of energy efficient motors:

Saving concluded as follows:

kW = Output of motor

IE3 = Efficiency of IE3 motor in %

IE2 = Efficiency of IE2 motor in %

PD = Price Difference between two efficiencies;

$$X = \frac{\text{kW}}{\text{IE2}} - \frac{\text{kW}}{\text{IE3}}$$

Saving =  $(X \times \text{Working hours} \times \text{Working days} \times \text{Tariff} \times 100)$

Payback Period =  $(\text{PD}/\text{Saving}) \times 12$  months

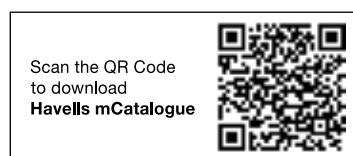






### Standard efficiency values for IE2 and IE3 Motors as per IEC 60034 / IS 12615: 2018

kW	2-Pole			4 Pole			6 Pole			8 Pole		
	Frame Size	Efficiency %		Frame Size	Efficiency %		Frame Size	Efficiency %		Frame Size	Efficiency %	
		IE2	IE3		IE2	IE3		IE2	IE3		IE2	IE3
0.37	71	69.5	73.8	71	72.7	77.3	71	67.6	73.5	90S	56.1	69.3
0.55	71	74.1	77.8	80	77.1	80.8	80	73.1	77.2	90L	61.7	73
0.75	80	77.4	80.7	80	79.6	82.5	90S	75.9	78.9	100L	66.2	75
1.1	80	79.6	82.7	90S	81.4	84.1	90L	78.1	81	100L	70.8	77.7
1.5	90S	81.3	84.2	90L	82.8	85.3	100L	79.8	82.5	112M	74.1	79.7
2.2	90L	83.2	85.9	100L	84.3	86.7	112M	81.8	84.3	132S	77.6	81.9
3.7	100L	85.5	87.8	112M	86.3	88.4	132S	84.3	86.5	160M	81.4	84.5
5.5	132S	87	89.2	132S	87.7	89.6	132M	86	88	160M	83.8	86.2
7.5	132S	88.1	90.1	132M	88.7	90.4	160M	87.2	89.1	160L	85.3	87.3
11	160M	89.4	91.2	160M	89.8	91.4	160L	88.7	90.3	180L	86.9	88.6
15	160M	90.3	91.9	160L	90.6	92.1	180L	89.7	91.2	200L	88	89.6
18.5	160L	90.9	92.4	180M	91.2	92.6	200L	90.4	91.7	225S	88.6	90.1
22	180M	91.3	92.7	180L	91.6	93	200L	90.9	92.2	225M	89.1	90.6
30	200L	92	93.3	200L	92.3	93.6	225M	91.7	92.9	250M	89.8	91.3
37	200L	92.5	93.7	225S	92.7	93.9	250M	92.2	93.3	280S	90.3	91.8
45	225M	92.9	94	225M	93.1	94.2	280S	92.7	93.7	280M	90.7	92.2
55	250M	93.2	94.3	250M	93.5	94.6	280M	93.1	94.1	315S	91	92.5
75	280S	93.8	94.7	280S	94	95	315S	93.7	94.6	315M	91.6	93.1
90	280M	94.1	95	280M	94.2	95.2	315M	94	94.9	315L	91.9	93.4
110	315S	94.3	95.2	315S	94.5	95.4	315M	94.3	95.1	315L	92.3	93.7
125	315M	94.5	95.3	315M	94.6	95.5	315M	94.4	95.2	355M	92.5	93.9
132	315M	94.6	95.4	315M	94.7	95.6	315L	94.6	95.4	355M	92.6	94
160	315L	94.8	95.6	315L	94.9	95.8	355M	94.8	95.6	355M	93	94.3
200	315L	95	95.8	315L	95.1	96	355M	95	95.8	355L	93.5	94.6
250	355M	95	95.8	355M	95.1	96	355L	95	95.8	-	-	-
315	355L	95	95.8	355L	95.1	96	355L	95	95.8	-	-	-



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