

IE4

Super Premium Energy Efficient

3 PHASE LV Induction Motors

Super Prima Series



Havells Super Premium Energy Efficient 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 Motors ranging from 0.37 kW to 315 kW (0.5 HP to 425 HP). Havells Motors are preferred choice of various Industries due to their performance and reliability.

Havells now offering Super Premium Energy Efficient IE4 Motors confirms to IEC 60034/IS12615 :2018 Standards, these motors are suitable for all sectors and all possible applications, these motors have highly reliable design for most demanding conditions, its mechanical design offer low vibration & noise and provide less payback period.

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.

Applications:

Havells Super Premium Energy Efficient Motors are designed to work in variety of applications across the industries, some of the typical application are :

- Compressor & Cooling
- Fans & HVAC
- Pumps
- Hydraulic systems
- Various Industries i.e. Cement, Steel, Power, Pharma etc.



Havells LV IE4 Motor General Specifications :

• Voltage	:	Rated voltage \leq 690 V
• Output	:	Rated output 0.37 kW to 90 kW (Frame size : 80 – 280)
• No of Poles	:	2, 4 & 6 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 up to IP66
• Cooling Method	:	Method of cooling IC411 in accordance with IS 6362/IEC 60034

*Other non-standard features also available as per application requirement

Advantages of Havells IE4 Motors

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

Cost effectiveness of energy efficient motors:

Saving concluded as follows:

kW = Output of motor

IE3 = Efficiency of IE3 motor in %

IE4 = Efficiency of IE4 motor in %

PD = Price Difference between two efficiencies;

$$X = \frac{\text{kW}}{\text{IE3}} - \frac{\text{kW}}{\text{IE4}}$$

Saving = (X x Working hours x Working days x Tariff x100)

Payback Period = (PD/Saving)x12 months





Standard Efficiency Values for IE3 and IE4 Motors as per IEC 60034 / IS 12615: 2018

2-Pole			
Rated Output	Frame Size	Nominal Efficiency %	
		IE3	IE4
kW			
0.75	80	80.7	83.5
1.1	80	82.7	85.2
1.5	90S	84.2	86.5
2.2	90L	85.9	88
3.7	100L	87.8	89.7
5.5	132S	89.2	90.9
7.5	132S	90.1	91.7
11	160M	91.2	92.6
15	160M	91.9	93.3
18.5	160L	92.4	93.7
22	180M	92.7	94
30	200L	93.3	94.5
37	200L	93.7	94.8
45	225M	94	95
55	250M	94.3	95.3
75	280S	94.7	95.6
90	280M	95	95.8

4-Pole			
Rated Output	Frame Size	Nominal Efficiency %	
		IE3	IE4
kW			
0.55	80	80.8	83.9
0.75	80	82.5	85.7
1.1	90S	84.1	87.2
1.5	90L	85.3	88.2
2.2	100L	86.7	89.5
3.7	112M	88.4	90.9
5.5	132S	89.6	91.9
7.5	132M	90.4	92.6
11	160M	91.4	93.3
15	160L	92.1	93.9
18.5	180M	92.6	94.2
22	180L	93	94.5
30	200L	93.6	94.9
37	225S	93.9	95.2
45	225M	94.2	95.4
55	250M	94.6	95.7
75	280S	95	96
90	280M	95.2	96.1

6-Pole			
Rated Output	Frame Size	Nominal Efficiency %	
		IE3	IE4
kW			
0.37	80	73.5	78
0.55	80	77.2	80.9
0.75	90S	78.9	82.7
1.1	90L	81	84.5
1.5	100L	82.5	85.9
2.2	112M	84.3	87.4
3.7	132S	86.5	89.3
5.5	132M	88	90.5
7.5	160M	89.1	91.3
11	160L	90.3	92.3
15	180L	91.2	92.9
18.5	200L	91.7	93.4
22	200L	92.2	93.7
30	225M	92.9	94.2
37	250M	93.3	94.5
45	280S	93.7	94.8
55	280M	94.1	95.1

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