

SUPER PREMIUM EFFICIENCY LV MOTORS

IE4 Efficiency class
0.37 kW to 375 kW



ultimo Series

New symbol of energy savings...

Why to settle for less, when you are getting more. **Use more, Save more!**

Presenting

ultimo Series

IE4 Super Premium Efficiency Motors
0.37kW to 375kW series

"India's first complete range of IE4 Motors"



About LHP

Established in 1981, LHP is a reputed manufacturer of wide range of high-quality motors up to 450 Frame (1000kW). The range includes various types of motors such as Standard Induction, Flame-proof, Gear, Brake, Dual Speed, Non-sparking, Increased Safety, Crane & Hoist Duty, Roller Table and Special Purpose Motors to name only a few. The range has been proving its worth for different applications in various industries. LHP motors are the preferred choice of major corporates, MNCs & OEMs due to the product quality, performance, timely deliveries and competitive prices.

The ISO 9001-2015 certification, CE mark, 3 BIS licences and National Awards for Quality Products have made LHP Motors the customer's 'First Choice'.

Being the first to introduce energy efficient motors in the market, now we have designed and manufactured Super Premium efficiency (IE4) class induction motors.

These motors are in the same frame sizes and all are suitable for line starting. (without the use of permanent magnets.)

Ultimo series IE4 motors

The Ultimo series IE4 motors cover 0.37 kW - 375 kW in frame sizes 71 - 450. They are available for 415 V 50 in 2, 4, 6 & 8 pole. The design is based on LHP's robust and wellproven induction motor platform, it meets IE4 requirements without using permanent magnets.

Ultimo series IE4 motors conform to IEC 60034-30-2014-03

- ✓ Suitable for continuous process industries where there is high scope for energy saving.
- ✓ Short payback period for replacement.
- ✓ Enhanced motor life.
- ✓ Less maintenance.

VFD Applications

When IE4 motors are used with VFD for variable speed applications, the savings can be much higher. Further the high inrush current is not encountered with VFD. So it makes a great deal of sense to choose LHPL IE4 level motors whenever a motor is needed or to be replaced to drive any application.

Considerations for selection and usage of IE4 motors

Applications

Machine tools, Textile, Air conditioning, Dairy equipment, Packing machinery, Material handling equipment, Geared Motors, Wood seasoning plants, Solvent extraction plants, Edible oil factories, Cement plants, Paper plants, Sugar plants Steel plants, Petroleum, Pharma and Chemical Industries. The load factor should be chosen between 65 to 100%, so that the advantage of saving will be achieved. The efficiency under such condition have flat efficiency. Thus saving is significant even in partial loads. The benefit of using these motors are maximum in continuous duty applications like blowers, compressors, fans, exhausters and pumps.

Assessing cost effectiveness

Saving calculated as follows :

kW = Output of motor

E1 = Efficiency of standard motors

E2 = Efficiency of IE4 motors.

Savings = (X x Working hrs x working days x Tariff

Method of testing efficiency

It is very important to note the method of arriving at the efficiency of the motor. For measurement of efficiency of IE4 motors method given in IEC 60034-2-1 is followed.

Operating Speed

IE4 motors have very less slip (Higher speeds) compared to standard motors. Care shall be taken while selecting centrifugal equipment like pump, fans and compressors.

Specifications

Range	Up to 375kW
Speed, RPM	3000, 1500, 1000 & 750 (Synchronous) at 50Hz
Mounting	Foot(B3), Flange (B5), Face(B14) and combinations
Frame	71 to 355L/K
Protection	IP 55 (Higher on request)
Insulation	Class 'F' (Class 'H' on request)
Voltage	415 V (Any other voltage up to 690V on request)
Frequency	50 Hz (60 Hz or as per requirement)
Accessories	Thermistor, ACH, RTD as optional wherever feasible.

Material of Construction

Stator frame	Cast Iron
Stamping	Low loss electrical steel
Rotor	Aluminium or Copper

Applicable standards

IS/IEC 60034-1	Specifications for 3 phase induction motors
IEC 60034-30	Specifications for energy efficient motors
IS 4722	Specifications for rotating electrical machines
IS/IEC 60034-5	Degree of protection provided by enclosure for rotating electrical machines.
IS 15999 (IEC 60034-2-1)	Method of determination of efficiency of rotating electrical machines

The values of efficiency for motors to classify as IE4 in accordance with IEC 60034-30-1 are as under

KW	2 Pole		4 Pole		6 Pole		8 Pole	
	Frame	Efficiency%	Frame	Efficiency%	Frame	Efficiency%	Frame	Efficiency%
0.37	71	78.1	71	81.1	80	78	90S	74.3
0.55	71	81.5	80	83.9	80	80.9	90L	77
0.75	80	83.5	80	85.7	90S	82.7	100L	78.4
1.1	80	85.2	90S	87.2	90L	84.5	100L	80.8
1.5	90S	86.5	90L	88.2	100L	85.9	112M	82.6
2.2	90L	88	100L	89.5	112M	87.4	132S	84.5
3.7	100L	89.7	112M	90.9	132S	89.3	160M	86.8
5.5	132S	90.9	132S	91.9	132M	90.5	160M	88.3
7.5	132S	91.7	132M	92.6	160M	91.3	160L	89.3
11	160M	92.6	160M	93.3	160L	92.3	180L	90.4
15	160M	93.3	160L	93.9	180L	92.9	200L	91.2
18.5	160L	93.7	180M	94.2	200L	93.4	225S	91.7
22	180M	94	180L	94.5	200L	93.7	225M	92.1
30	200L	94.5	200L	94.9	225M	94.2	250M	92.7
37	200L	94.8	225S	95.2	250M	94.5	280S	93.1
45	225M	95	225M	95.4	280S	94.8	280M	93.4
55	250M	95.3	250M	95.7	280M	95.1	315S	93.7
75	280S	95.6	280S	96	315S	95.4	315M	94.2
90	280M	95.8	280M	96.1	315M	95.6	315L	94.4
110	315S	96	315S	96.3	315M	95.8	315L	94.7
132	315M	96.2	315M	96.4	315L	96	--	--
160	315L	96.3	315L	96.6	--	--	--	--
200	315L	96.5	315L	96.7	--	--	--	--
250	315	96.5	355L	96.7	--	--	--	--
315	355	96.5	355L	96.7	--	--	--	--
355	355L/K	96.5	355L	96.7	--	--	--	--
375	355L/K	96.5	355L/K	96.7	--	--	--	--

Regional Sales & Service Network

ultimo Series



SATURN PYRO SDN. BHD.

Johor Bahru Office :

No. 44 & 44A, Jalan Palma Rafis 1,
Taman Dato Chellam, 81800 Ulu Tiram
Johor.
Tel : +607-866 0510
Fax : +607-866 0511
enquiry@saturnpyro.com

Kuala Lumpur Office :

K3-03-12, Tower 3, UOA Business Park,
Jalan Pengaturcara U1/51A, Section U1,
40150 Shah Alam, Selangor
Tel : +603-587 03282
E-mail : kl@saturnpyro.com

Singapore Office :

Saturn Pyro Pte. Ltd.
Address : 101 Kitchener Road, #02-42
Jalan Besar Plaza, Singapore 208511
Tel : +607-866 0510
Fax : +607-866 0511
E-mail : jerry@saturnpyro.com