

● For Domestic (Japan)

TMEiC		IE3	
三相誘導電動機			
定格出力	75 kW	極数	4
形式	IDF-CHKE311	枠番号	250MD
定格電圧	400/440 V	絶縁耐熱クラス	155 (F)
定格電流	137/124 A	定格	S1
定格周波数	50/60 Hz	最高冷媒温度	40 °C
定格回転速度	1485/1785 min ⁻¹	規格	JEC-2137-2000-Amd.1
IE3 50/60Hz-95.0/95.4%		特性	JIS C4034-30
保護方式	IP44	軸受番号	負荷側 6218CM
冷却方式	IC411		反負荷側 6217ZZCM
製造番号	E111234HM	製造年	2011
① 株式会社 TMEiC			

● For International (except Japan)

TMEiC		IE3	
THREE PHASE INDUCTION MOTOR			
RATED OUTPUT	75 kW	POLES	4
TYPE	IDF-CHKE311	FRAME NO.	250MD
RATED VOLTAGE	400/440 V	THERMAL CLASS	155 (F)
RATED CURRENT	137/124 A	RATING	S1
RATED FREQUENCY	50/60 Hz	MAX. AMB.	40 °C
RATED SPEED	1485/1785 min ⁻¹	STANDARD	IEC 60034-1
IE3 50/60Hz-95.0/95.4%		PERFORMANCE	IEC 60034-30
PROTECTION	IP44	BEARING	DE 6218CM
COOLING METHOD	IC411		NDE 6217ZZCM
SERIAL NO.	E111234HM	MANUFACTURED IN	2011
① TMEiC Corporation			
MADE IN JAPAN		NAGASAKI, 852-8004 JAPAN	

TMEiC

URL <https://www.tmeic.co.jp>

TMEiC
We drive industry

Medium size low voltage 3 phase induction motor

TM21-FII
Premium efficiency IE3 Series

(In accordance with IEC 60034-30)

Contribute to energy saving and CO2 reduction
by utilizing Premium efficiency motors



series **IE3**
Low Voltage Induction Motors 75~375kW

TMEiC Corporation

TM21-FII IE3 series

New Global Standards

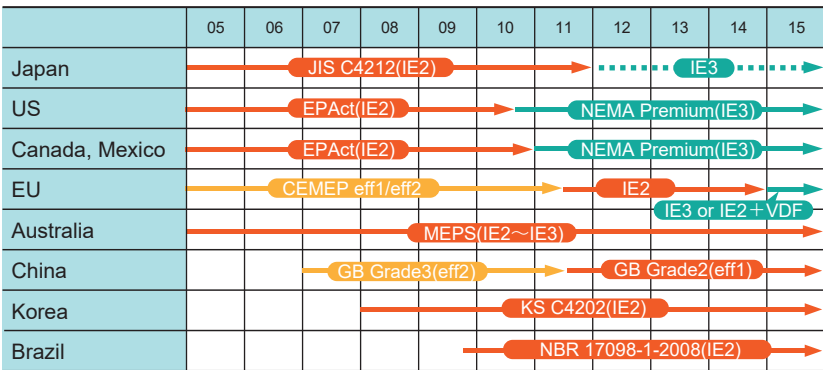
New standards have been set for induction motor efficiency through the introduction of MEPS “Minimum Energy Performance Standards”. MEPS (generally based on IEC60034-30(*1)) are contributing to increased efficiency performance of induction machines globally.

(*1) IEC 60034-30 defines energy efficiency classes for single-speed, three-phase, 50 and 60 Hz,cage-induction motors. Testing is carried out in accordance with IEC 60034-2-1 containing a test procedure (Indirect loss determination with PLL(stray load loss) determined from residual loss) similar to IEEE 112B.

IEC60034 Efficiency Classes:

Eff. code	Brief description	Other eff. level	Japanese standards, JIS
IE1	Standard	GB grade3, CEMEP eff2	JIS C4210
IE2	High Efficiency	EPAct, CEMEP eff1, GB grade2, KS C4202	JIS C4212
IE3	Premium Efficiency	NEMA Premium	JIS C4034-30
IE4(*2)	Supper Premium Efficiency	—	—

(*2) IE4 is reserved for a future level above IE3. These products are not yet commercially available and might need to go beyond AC induction motor technology to reach the necessary values.



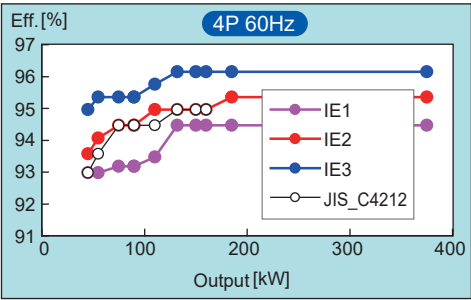
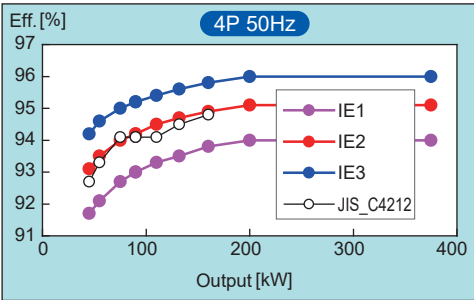
IE3 currently represents the highest class of motor efficiency in the world.

Note

Labelling systems are not yet harmonised however TMEIC adopt IEC 60034-30 nomenclature (compatible with NEMA) as standard. Where local regulations require alternative arrangements such modifications can be made.

The efficiency class of JIS C4212 and IE1~IE3

Above 55kW, efficiency values of IE3 rated machines are approximately 2% higher than that of IE1 class of motor. Such efficiency savings directly translate to reductions in power consumption and CO2 emissions.

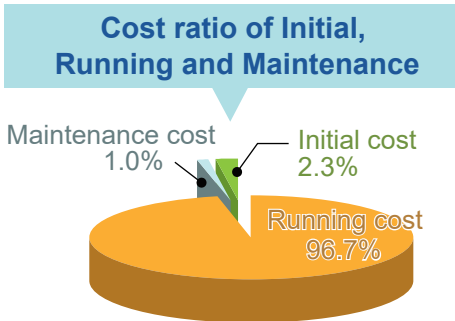


Reduction of Running cost and CO2

[75kW 4pole 50Hz]			
	IE1 (≒eff.2) Standard	IE3 Premium efficiency	Benefit
Output	75kW	75kW	75kW
Efficiency (*3)	92.7%	95.0%	2.3% up
Electric energy (*4)	708,738 kWh/year	691,579 kWh/year	Δ17,159 kWh/year
Running cost (*5)	\$141,748 /year	\$138,316 /year	\$3,432 /year
CO2 emissions (*6)	393 ton/year	384 ton/year	10 ton/year

[160kW 4pole 50Hz]			
	IE1 (≒eff.2) Standard	IE3 Premium efficiency	Benefit
Output	160kW	160kW	160kW
Efficiency	93.8%	95.8%	2.0% up
Electric energy	1,494,243 kWh/year	1,463,048 kWh/year	Δ31,195 kWh/year
Running cost	\$298,849 /year	\$292,610 /year	\$6,239 /year
CO2 emissions	829 ton/year	812 ton/year	17 ton/year

(*3) This efficiency value is from IEC 60034-30.
(*4) Electric energy is calculated subject to 24h/day, 365day/year.
(*5) Running cost is calculated subject to \$0.2/kWh.
(*6) CO2 emmision is calculated subject to 0.555ton/MWh.



Source : IEC 60034-31/TS
11kW IE3 4000Hr/year x 15 years

Benefit of TM21-FII IE3 series

2 ratings available

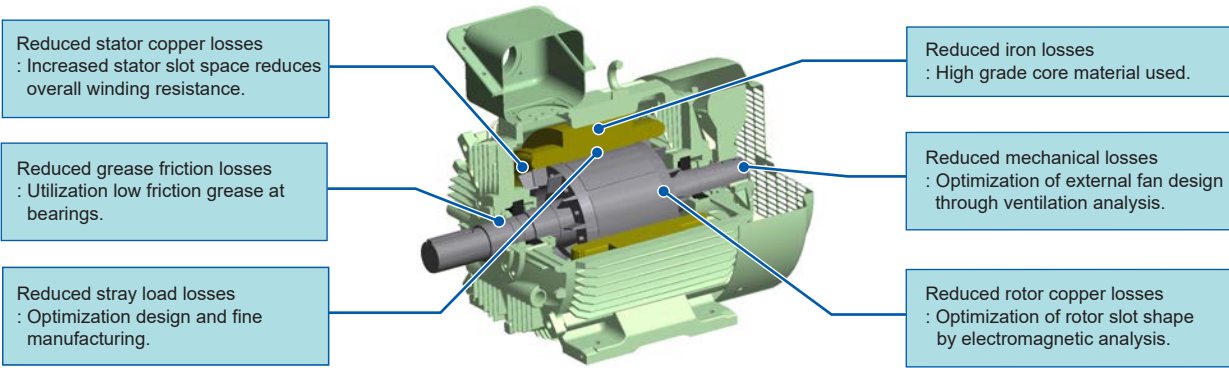
Below 200kW, motors are dual voltage dual frequency rated. Ex. 400/440V 50/60Hz

Low noise

TM21-FII IE3 series is applied low noise design.

Improvement to IE3 series

Through design innovation and experience TMEIC have reduced the losses of the TM21-FII IE3 series to improve overall performance.



Standard specification of TM21-FII IE3 series

Item	Content	
Output	75 ~ 375kW	6P : over 55kW
Pole	2, 4, 6 Poles	8P is not included
Voltage	400/440V	Dual voltage as standard up to and including 200kW. Over 200kW is single voltage. 200V class is available up to 132kW.
Frequency	50/60Hz	Over 200kW is single frequency.
Ingress protection	TEFC (IP44)	Option : IP45, 54, 55
Cooling method	TEFC (IC411)	
Mounting arrangement	Horizontal with feet (IMB3)	Vertical flange mount (IMV1)
Insulation class	155(F)	
Rating	S1 (Continuous duty) or S3 (Intermittent periodic duty, over 80%)	
Starting method	Direct on line	Inverter drive is not applied for IE3.
Coupling method	Direct	Option : Belt drive
Grease	Urea grease	RAREMAX SUPER / SKF LGHP2
Color	Munsel 2.5GY 8/8	

Frame size versus Rated Output

[400V 50Hz]				[440V 60Hz]			
Output	2P	4P	6P	Output	2P	4P	6P
55kW			250SD	55kW			250SD
75kW	250SD	250SD	250MD	75kW	250SD	250SD	250MD
90kW	250MD	250MD	280SD	90kW	250MD	250MD	280SD
110kW	280SD	280SD	280MD	110kW	280SD	280SD	280MD
132kW	280MD	280MD	280L	132kW	280MD	280MD	280L
160kW	280L	280L	280L	150kW	280MD	280MD	280L
200kW	280L	280L	315H	160kW	280L	280L	280L
220kW	315H	315H	315H	185kW	280L	280L	280L
250kW	315H	315H	315H	200kW	280L	280L	315H
280kW	315H	315H	355H	220kW	315H	315H	315H
300kW	315H	315H	355H	250kW	315H	315H	315H
315kW	355H	355H	355H	280kW	315H	315H	355H
355kW	355H	355H	355H	300kW	315H	315H	355H
375kW	355H	355H	355H	315kW	355H	355H	355H
				355kW	355H	355H	355H
				375kW	355H	355H	355H