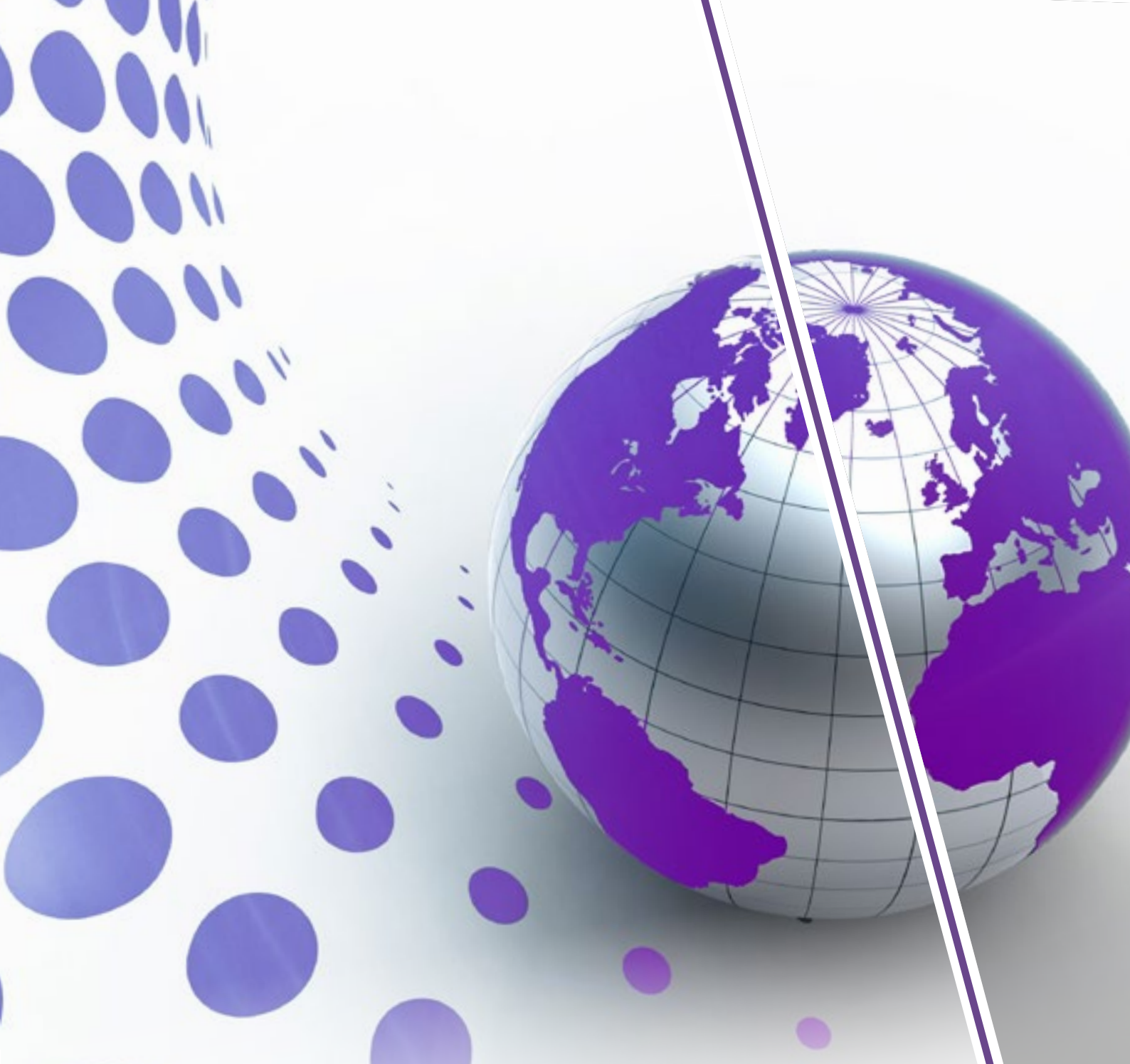




GLOBAL MINIMUM ENERGY PERFORMANCE STANDARD (MEPS)

3 PHASE LOW VOLTAGE MOTORS

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ENERGY EFFICIENCY

HAS BECOME RELEVANT IN TODAY'S WORLD.

This is mainly due to dependence on natural resources which are getting depleted due to constant environmental pressure.



The implementation of regulations and policies, promoting energy efficiency and mitigating energy use impacts, differs slightly between countries.

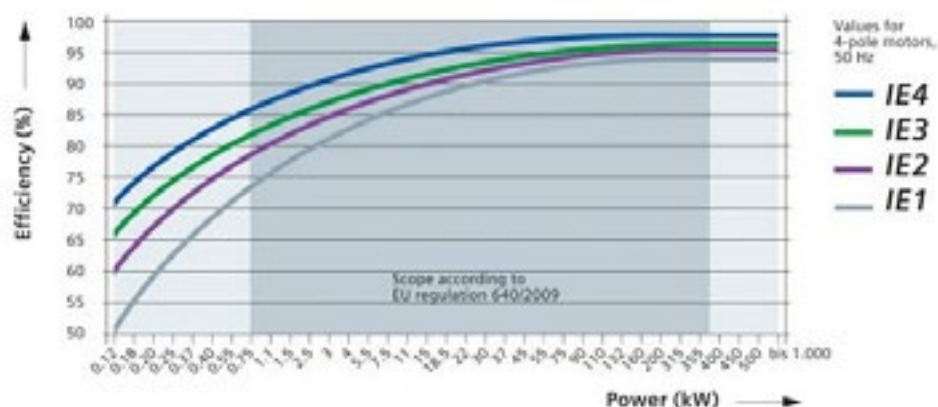
Energy efficiency also contributes to reduce energy vulnerability - especially for countries that import all or most of their energy sources.

Regal understands the different global regulations and requirements and offers a comprehensive range of electric motors which comply with the minimum energy efficiency levels defined by each region or country.



ENERGY EFFICIENCY

The energy efficiency values depend on size and speed. The table below shows the standard efficiency band for each of the efficiency class values that a motor must meet in order to be labeled as a required efficiency class.



EFFICIENCY CLASS

Various energy efficiency standards have established efficiency categories, where a certain value must be met to fall into that category. The table at the right shows the different levels that currently exist.

IEC®* 60034-30-1	IE1	IE2	IE3	IE4	IE5
NEMA®* MG1	Std.	High	Premium		
NZS 1359.5		E2	E3		
NBR 17094-1w		IR2	IR3		
GB 18613 : 2020			GB3	GB2	GB1

*The following trademarks are not owned by or under the control of Regal Beloit Corporation: IEC is a trademark of International Electrotechnical Commission; NEMA is a trademark of National Electrical Manufacturers Association.

PROPOSED CHANGES

MEPS (Minimum Energy Performance Standard)	European Union						Colombia		China	
	Current	July 2021		July 2023			Current	Jan 2021	Current	June 2021
Regulation	Directive 2009-125-EC Regulation 640-2009	Regulation EU 1781/2019		Regulation EU 1781/2019			RETIQ 2015	RETIQ 2015	Decree n° 35	Decree n° 35
Standard	IEC®* 60034-30-1	IEC®* 60034-30-1		IEC®* 60034-30-1			Resolution n° 4 1012:2015	Resolution n° 4 1012:2015	GB 18613-2012	GB 18613-2020
Power supply system	Three-phase	Three-phase		Three-phase	Single-phase		Three-phase	Three-phase	Three-phase	Three-phase
Minimum energy performance	IE3	IE3	IE2	IE4	IE2	IE2	IE2	IE3	GB3	GB3
Minimum energy performance when motor is operated with inverter frequency	IE3	IE3	IE2	IE4	IE2	NA	IE2	IE2	GB3	GB3
Output (kW)	0.75 up to 375 kW	0.75 up to 1000 kW	0.12 up to 0.75 kW	75 up to 200 kW	0.12 up to 0.75 kW	≥0.12 kW	0,18 up to 375 kW	≥ 0.75 kW up to 375 kW	0.75 kW up to 375 kW	0.12 up to 1000 kW
Number of poles	2, 4, 6	2, 4, 6, 8		2, 4, 6		2, 4, 6, 8	2, 4, 6, 8	2, 4, 6, 8	2, 4, 6	2, 4, 6, 8
Voltage (V)	50 V to 1000 V	up to 1000 V		up to 1000 V			up to 600 V	up to 600 V	up to 1000 V	up to 1000 V
Frequency (Hz)	50 Hz, 60 Hz or 50/60 Hz	50 Hz or 50/60 Hz		50 Hz or 50/60 Hz			60 Hz or 50/60 Hz	60 Hz or 50/60 Hz	50 Hz	50 Hz
Service Duty	S1, S3 ≥ 80% or S6 ≥ 80%	S1, S3 ≥ 80% or S6 ≥ 80%		S1, S3 ≥ 80% or S6 ≥ 80%			S1	S1	S1, S3 ≥ 80%	S1, S3 ≥ 80%
Cooling method	TEFC, TEBC, ODP	TEFC, TEBC, ODP, TEAO		TEFC, TEBC, ODP, TEAO			TEFC, ODP	TEFC, ODP	TEFC	TEFC
Degree of protection	IP 00 up to IP 66	IP 00 up to IP 66		IP 00 up to IP 66			IP 00 up to IP 66	IP 00 up to IP 66	IP 44 up to IP 66	IP 4 up to IP 66
Area classification	Safe area	Safe and hazardous area (Ex ec, Ex tc, Ex tb, Ex db, Ex de, Ex db eb)		Safe area	Hazardous area (Ex eb)	Safe area	Safe area	Safe area	Safe and hazardous area	Safe and hazardous area
Altitude	Up to 4000 m	Up to 4000 m		Up to 4000 m			All	All	up to 1000 m	up to 1000 m
Ambient temperature	-30 up to 60°C	-30 up to 60°C		-30 up to 60°C			All	All	-15 up to 40 °C	-15 up to 40 °C
Exemptions	Submersible Motors, Brake Motors, ATEX®* Motors regarding 2014/34/EU (for explosive atmosphere)	Ex eb Motors, High Voltage Motors, ATEX Mining Motors, Totally Enclosed Non-Ventilated (TENV) Motors, Slipring Motors, Max Operating Temp. above 400°C operate wholly immersed in a liquid Multispeed Motors Specifically qualified for the safety of nuclear installations		Brake Motors, Ex eb increased safety Motor and other Explosion protected motors						
Required documentation	Self declaration	Self declaration		Self declaration			Self declaration	Self declaration	Register by model	Register by model
Certifying Body	CE	CE		CE			RETIQ	RETIQ	CCC	CCC

*The following trademarks are not owned by or under the control of Regal Beloit Corporation: ATEX is a trademark of European Union; CCC is a trademark by Certification and Accreditation Administration of the People's Republic of China; IEC is a trademark of International Electrotechnical Commission.

ENERGY EFFICIENCY SOUTH AMERICA



Images are for representative purpose only.

ENERGY EFFICIENCY

SOUTH AMERICA

ARGENTINA



IE3

IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current	
Regulation	PCI 007/17	
Standard	RAM 62409:2014	IRAM 62405:2012
Power supply system	Single-phase	Three-phase
Minimum energy performance	IE00	IE0
Minimum energy performance when motor is operated with inverter frequency	NA	IE0
Output (kW)	0.12 up to 7.5 kW	0.75 up to 30 kW
Number of poles	2, 4, 6	2, 4, 6
Voltage (V)	up to 200 V	up to 380 V
Frequency (Hz)	50 Hz or 50/60 Hz	
Service Duty	S1	
Cooling method	TEFC, ODP	
Degree of protection	IP 2X up to IP 66	
Area classification	Safe area	
Altitude	All	
Ambient temperature	All	
Required documentation	Certificate	
Requirement	Energy efficiency level label	
		

Multi-voltage motors that have 220 V (single-phase) or 380 V (three-phase) as one of the operating voltages are covered by scope.

Minimum efficiency level: regulation does not set a minimum efficiency level for motors.

Images are for representative purpose only.

*IRAM is a certification mark of Instituto Argentino de Normalización y Certificación and is not owned by or under the control of Regal Beloit Corporation.



RENDIMENTO E FATOR DE POTÊNCIA
APROVADOS PELO INMETRO

 **PROCEL**

NBR - 17094-1

 **INMETRO**

Registro Inscrição nº 0000000000

A photograph of the Christ the Redeemer statue in Rio de Janeiro, Brazil. The statue is shown from the back, with its arms outstretched. It stands on a dark, cylindrical pedestal. In the background, there are blue mountains and a body of water. A large, diagonal purple overlay is present on the left side of the image.

ENERGY EFFICIENCY

SOUTH AMERICA

CHILE

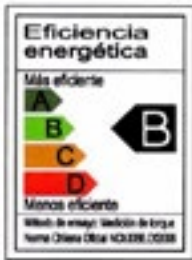


IE3

IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current
Regulation	NCh 3086 of 2008
Standard	IEC®*60034-30-1
Power supply system	Three-phase
Minimum energy performance	IE2
Minimum energy performance when motor is operated with inverter frequency	IE2
Output (kW)	0.75 up to 7.5 kW
Number of poles	2, 4, 6
Voltage (V)	Up to 690 V
Frequency (Hz)	50 Hz or 50/60 Hz
Service Duty	S1
Cooling method	All
Degree of protection	All
Area classification	Safe area
Altitude	All
Ambient temperature	All
Required documentation	Certificate
Requirement	Motors held in stock by distributors must be certified for the Energy label according PE n° 7/01/2 and efficiency and safety labels.  

Images are for representative purpose only.

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ENERGY EFFICIENCY

SOUTH AMERICA

COLOMBIA



IE3

IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current	New 01/2021
Regulation	RETIQ 2015	RETIQ 2015
Standard	Resolution n° 4 1012:2015	Resolution n° 4 1012:2015
Power supply system	Three-phase	Three-phase
Minimum energy performance	IE2	IE3
Minimum energy performance when motor is operated with inverter frequency	IE2	IE2
Output (kW)	0.18 up to 375 kW	≥ 0.75 kW up to 375 kW
Number of poles	2, 4, 6, 8	2, 4, 6, 8
Voltage (V)	up to 600 V	up to 600 V
Frequency (Hz)	60 Hz or 50/60 Hz	60 Hz or 50/60 Hz
Service Duty	S1	S1
Cooling method	TEFC, ODP	TEFC, ODP
Degree of protection	IP 00 up to IP 66	IP 00 up to IP 66
Area classification	Safe area	Safe area
Altitude	All	All
Ambient temperature	All	All
Required documentation	Self declaration	Self declaration
Requirement	Energy efficiency level label. 	Energy efficiency level label. 

ENERGY EFFICIENCY

SOUTH AMERICA

ECUADOR



IE3

IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current	
Regulation	RTE INEN 14 5	
Standard	IEC®*60034 -30 -1	
Power supply system	Single-phase	Three-phase
Minimum energy performance	IE2	IE2
Minimum energy performance when motor is operated with inverter frequency	NA	IE2
Output (kW)	0.18 up to 1.5 kW	0.746 up to 373 kW
Number of poles	2, 4, 6	2, 4, 6, 8
Voltage (V)	up to 1000V	
Frequency (Hz)	60 Hz	
Service Duty	S1	
Cooling method	TEFC, ODP, TEAO	
Degree of protection	IP 00 up to IP 66	All
Area classification	Safe and hazardous area	
Altitude	Up to 4000 m	
Ambient temperature	-20 up to 60 °C	
Required documentation	Self declaration	

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*IEC is a trademark of International Electrotechnical Commission and is not owned by or under the control of Regal Beloit Corporation.



ENERGY EFFICIENCY

SOUTH AMERICA

PERÚ



IE3

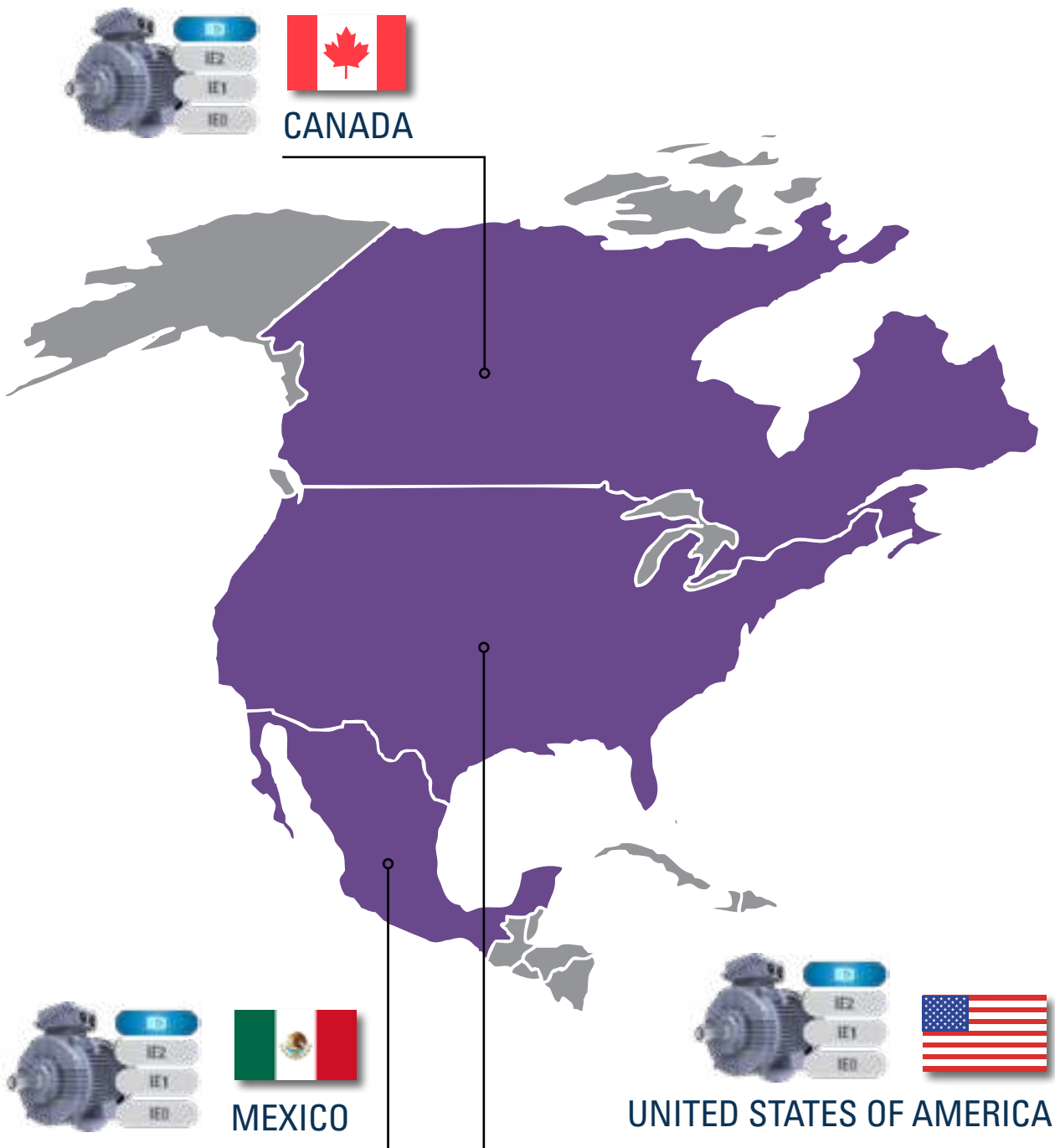
IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current
Regulation	Decreto Supremo N° 009-2017-EM
Standard	Law 27345-2000
Power supply system	Three-phase
Minimum energy performance	IE1
Minimum energy performance when motor is operated with inverter frequency	IE1
Output (kW)	0.75 up to 375 kW
Number of poles	2, 4, 6
Voltage (V)	Up to 600 V
Frequency (Hz)	60 Hz
Service Duty	S1 or S3 $\geq 80\%$
Cooling method	TEFC, ODP, TEAO
Degree of protection	$\geq IP21$
Area classification	Safe and hazardous area
Altitude	All
Ambient temperature	All
Required documentation	Certificate
Requirement	Energy efficiency level label. 

ENERGY EFFICIENCY NORTH AMERICA



Images are for representative purpose only.

ENERGY EFFICIENCY

NORTH AMERICA

CANADA



IE3

IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current	
Regulation	Amendment 14 to Energy Efficiency Regulations - Small Electric Motors	Amendment 14 to Energy Efficiency Regulations - Electric Motors
Standard	IEEE Std 114-2010, IEEE Std 112-2004, CSA C390-10, CSA®* C7 47-09	IEEE Std 112-2004, CSA C390-10
Power supply system	Single-phase or Three-phase	Three-phase
Minimum energy performance	Premium	NEMA Premium®*
Minimum energy performance when motor is operated with inverter frequency	NA	NEMA Premium
Output (kW)	0.25 up to 3 HP (0.18 up to 2.2 kW)**	1 up to 500 HP (0.75 up to 375 kW)***
Number of poles	2, 4, 6	2, 4, 6, 8
Voltage (V)	All	up to 600V
Frequency (Hz)	60 Hz or 50/60 Hz	
Service Duty	S1	
Cooling method	ODP	TEFC, ODP, TEAO
Degree of protection	All	
Area classification	Safe area	Safe and hazardous area
Altitude	All	
Ambient temperature	All	
Required documentation	Certificate	
** Applicable to frame sizes NEMA®* 42, 48 and 56 (IEC®* 63 and 71).		
*** Applicable to frame sizes from NEMA 143 (IEC 90 and above).		

ENERGY EFFICIENCY

NORTH AMERICA

MÉXICO



IE3

IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current
Regulation	NOM-016-ENER-2016
Standard	NOM-016-ENER-2016
Power supply system	Three-phase
Minimum energy performance	NEMA Premium®*
Minimum energy performance when motor is operated with inverter frequency	NEMA Premium
Output (kW)	1 up to 500 HP (0.75 up to 375 kW)
Number of poles	2, 4, 6, 8
Voltage (V)	up to 600 V
Frequency (Hz)	60 Hz or 50/60 Hz
Service Duty	S1
Cooling method	All
Degree of protection	All
Area classification	Safe and hazardous area
Altitude	All
Ambient temperature	All
Required documentation	Certificate

Images are for representative purpose only.

* NEMA Premium is a trademark of National Electrical Manufacturers Association and is not owned by or under the control of Regal Beloit Corporation.

ENERGY EFFICIENCY

NORTH AMERICA

UNITED STATES OF AMERICA



IE3

IE2

IE1

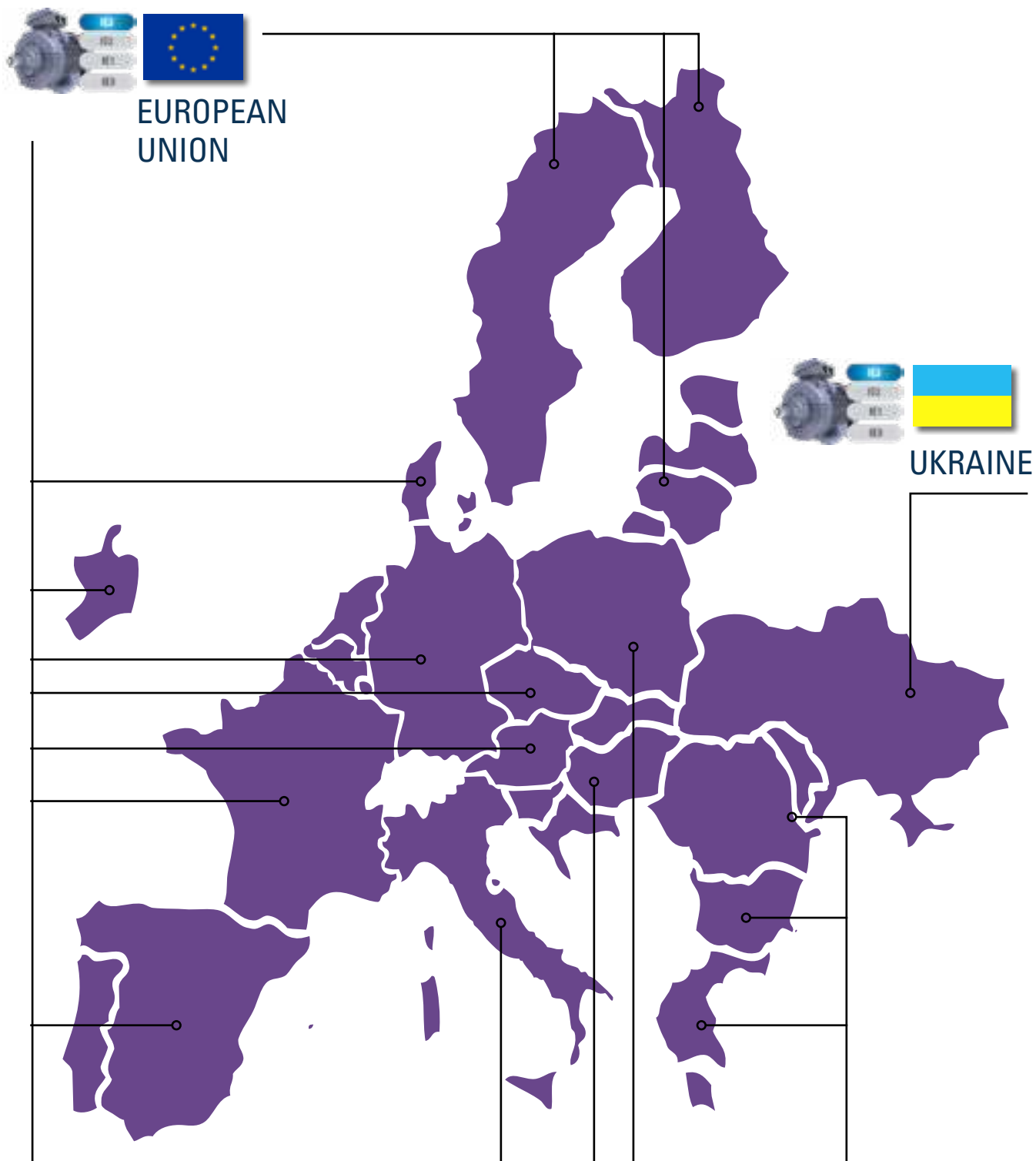
IE0

MEPS (Minimum Energy Performance Standard)	Current	
Regulation	DOE 10 CFR Part 431 - Subpart X - Small Electric Motors	DOE 10 CFR Part 431 - Subpart B - Electric Motors
Standard	IEEE Std 114-2010, IEEE Std 112-2004, CSA®* C390-10, CSA C7 47-09	IEEE Std 112-2004, CSA C390-10
Power supply system	Single-phase or Three-phase	Three-phase
Minimum energy performance	Premium	NEMA Premium®*
Minimum energy performance when motor is operated with inverter frequency	NA	NEMA Premium
Output (kW)	0.25 up to 3 HP (0,18 up to 2,2 kW)*	1 up to 500 HP (0.75 up to 375 kW)**
Number of poles	2, 4, 6	2, 4, 6, 8
Voltage (V)	All	up to 600 V
Frequency (Hz)	60 Hz or 50/60 Hz	
Service Duty	S1	
Cooling method	ODP	TEFC, ODP, TENV, TEBC
Degree of protection	All	
Area classification	Safe area	Safe and hazardous area
Altitude	All	
Ambient temperature	All	
Required documentation	Certificate	

*The following trademarks are not owned by or under the control of Regal Beloit Corporation:

NEMA Premium is a trademark of National Electrical Manufacturers Association; CSA is a trademark of CSA Group.

ENERGY EFFICIENCY EUROPE



ENERGY EFFICIENCY

EUROPE

EUROPEAN UNION



IE3

IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current	New 07/2021		New 07/2023		
Regulation	Directive 2009-125-EC Regulation 640-2009	Regulation EU 1781/2019		Regulation EU 1781/2019		
Standard	IEC** 60034-30-1	IEC** 60034-30-1		IEC** 60034-30-1		
Power supply system	Three-phase	Three-phase	Three-phase	Three-phase	Three-phase	Single-phase
Minimum energy performance	IE3	IE3	IE2	IE4	IE2	IE2
Minimum energy performance when motor is operated with inverter frequency	IE3	IE3	IE2	IE4	IE2	NA
Output (kW)	0.75 up to 375 kW	0.75 up to 1000 kW	0.12 up to 0.75 kW	75 up to 200 kW	0.12 up to 0.75 kW	≥0.12 kW
Number of poles	2, 4, 6	2, 4, 6, 8		2, 4, 6		2, 4, 6, 8
Voltage (V)	up to 1000 V	up to 1000 V		up to 1000 V		
Frequency (Hz)	50 Hz or 50/60 Hz	50 Hz or 50/60 Hz		50 Hz or 50/60 Hz		
Service Duty	S1, S3 ≥ 80% or S6 ≥ 80%	S1, S3 ≥ 80% or S6 ≥ 80%		S1, S3 ≥ 80% or S6 ≥ 80%		
Cooling method	TEFC, TEBC, ODP	TEFC, TEBC, ODP, TEAO		TEFC, TEBC, ODP, TEAO		
Degree of protection	IP 00 up to IP 66	IP 00 up to IP 66		IP 00 up to IP 66		
Area classification	Safe area	Safe and hazardous area (Ex ec, Ex tc, Ex tb, Ex db, Ex de, Ex db eb)		Safe area	Hazardous area (Exeb)	Safe area
Altitude	Upto 4000 m	Upto 4000 m		Upto 4000 m		
Ambient temperature	-30 up to 60°C	-30 up to 60°C		-30 up to 60°C		
Exemptions	Submersible Motors, Brake Motors, ATEX** Motors regarding 2014/34/EU for explosive atmosphere)	Ex eb Motors, High Voltage Motors, ATEX Mining Motors, Totally Enclosed Non-Ventilated (TENV) Motors, Slipring Motors, Max Operating Temp. above 400°C operate wholly immersed in a liquid Multispeed Motors Specifically qualified for the safety of nuclear installations		Brake Motors, Ex eb increased safety Motor and other Explosion protected motors		
Required documentation	Self declaration	Self declaration		Self declaration		

*IEC is a trademark of International Electrotechnical Commission and is not owned by or under the control of Regal Beloit Corporation.

ENERGY EFFICIENCY

EUROPE

UKRAINE



- IE3
- IE2
- IE1
- IE0

MEPS (Minimum Energy Performance Standard)	Current
Regulation	Decree N° 157, Resolution N° 804 and Resolution N° 1184
Standard	IEC®* 60034-2-1
Power supply system	Three-phase
Minimum energy performance	IE3
Minimum energy performance when motor is operated with inverter frequency	IE2
Output (kW)	0.75 up to 375 kW
Number of poles	2, 4, 6
Voltage (V)	Up to 100 V
Frequency (Hz)	50 Hz
Service Duty	S1 or S3 ≥ 80%
Cooling method	All
Degree of protection	All
Area classification	Safe area
Altitude	Upto 4000 m
Ambient temperature	Up to 60 °C
Required documentation	Self declaration
Requirement	The motor must be identified with the logo. 



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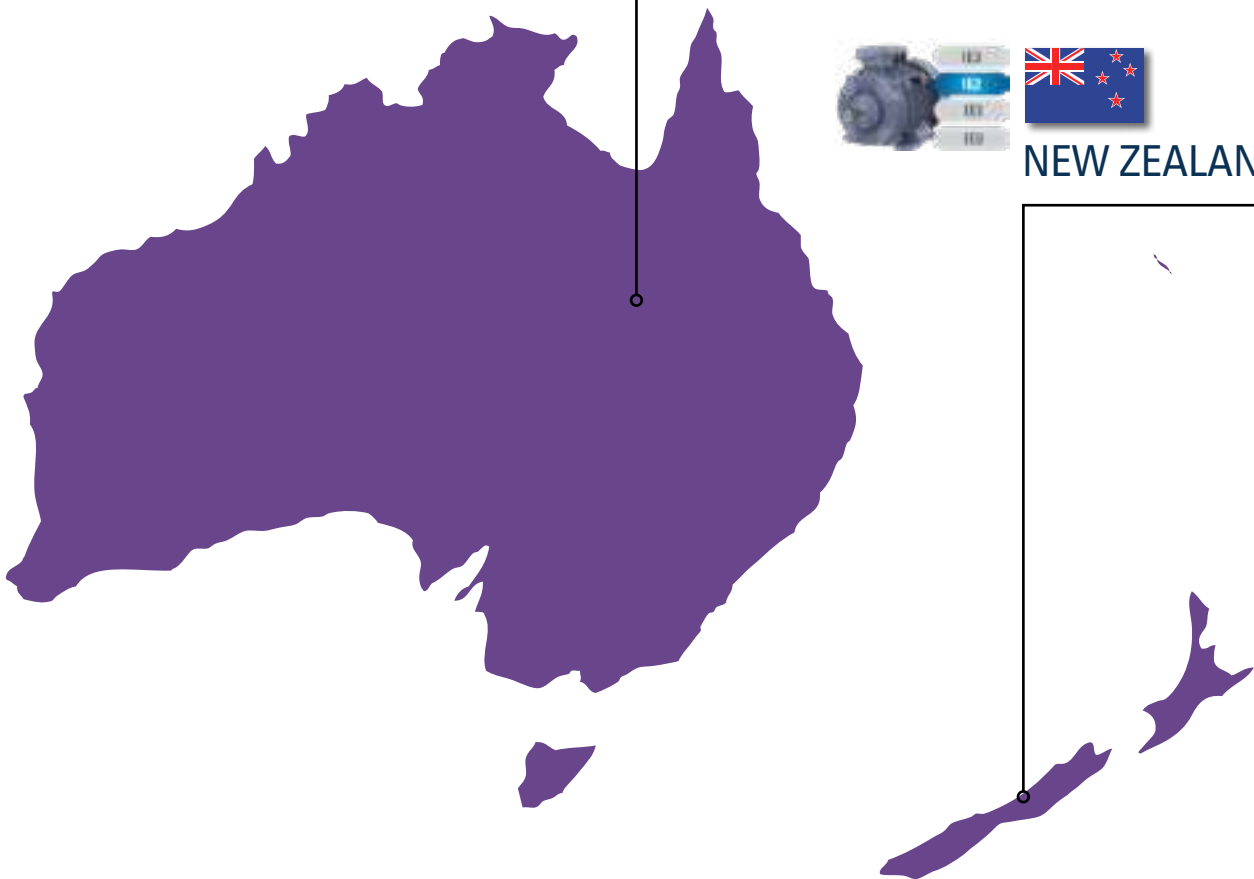
ENERGY EFFICIENCY OCEANIA



AUSTRALIA



NEW ZEALAND



ENERGY EFFICIENCY

OCEANIA

AUSTRALIA



IE3

IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current
Regulation	GEMS Act of 2019
Standard	IEC®* 60034-30-1
Power supply system	Three-phase
Minimum energy performance	IE2
Minimum energy performance when motor is operated with inverter frequency	IE2
Output (kW)	0.73 up to 185 kW
Number of poles	2, 4, 6, 8
Voltage (V)	Up to 1100V
Frequency (Hz)	50 Hz or 60 Hz
Service Duty	All except S2
Cooling method	TEFC, ODP, TEAO
Degree of protection	IP 00 up to IP 66
Area classification	Safe and hazardous area
Altitude	All
Ambient temperature	All
Required documentation	Register by model

Images are for representative purpose only.

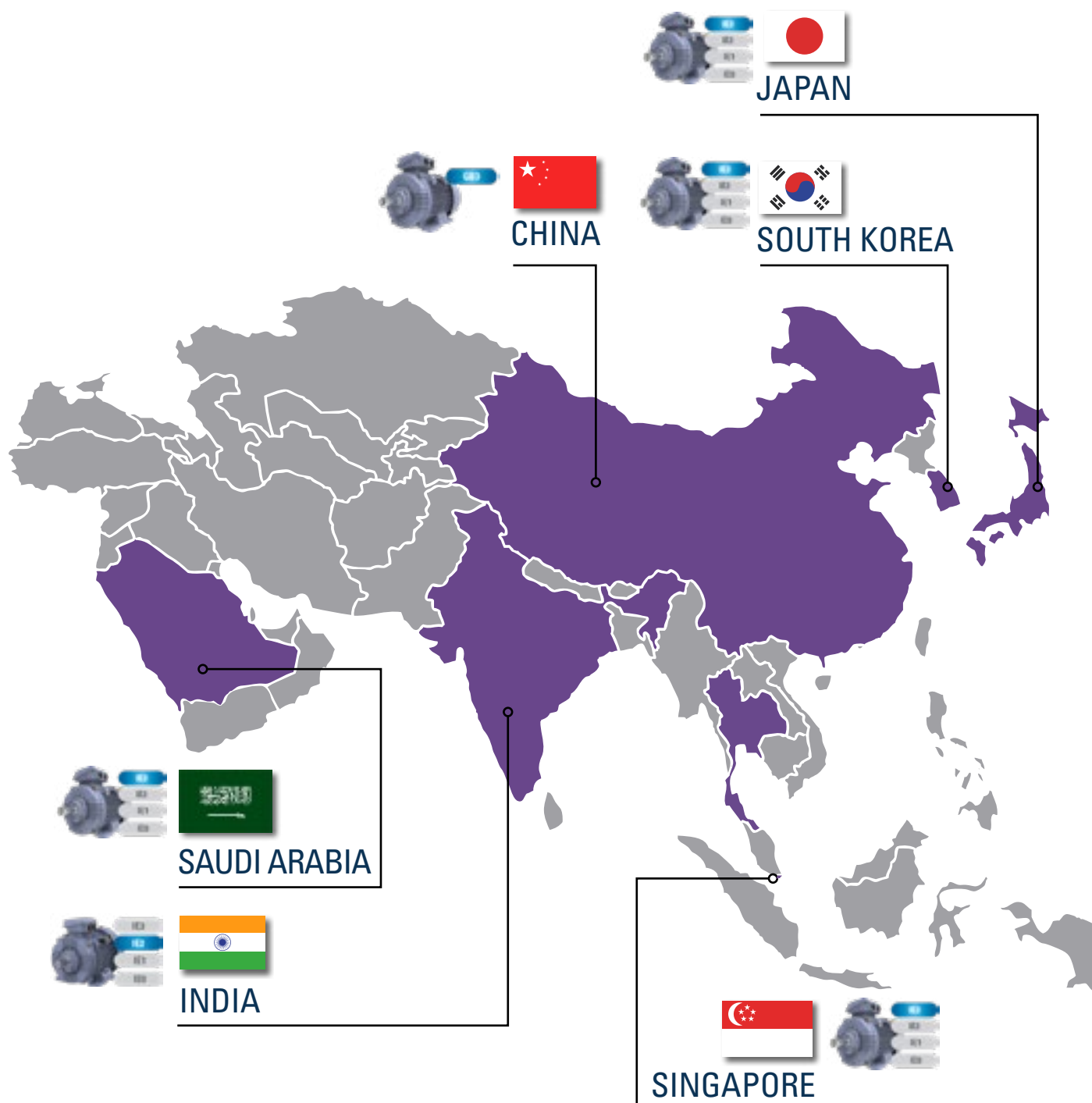
*IEC is a trademark of International Electrotechnical Commission and is not owned by or under the control of Regal Beloit Corporation.

ENERGY EFFICIENCY**OCEANIA****NEW ZEALAND****IE3****IE2****IE1****IE0**

MEPS (Minimum Energy Performance Standard)	Current
Regulation	AS/NZS 1359.5:2004
Standard	IEC®* 60034-30-1
Power supply system	Three-phase
Minimum energy performance	E2 / IE2
Minimum energy performance when motor is operated with inverter frequency	E2 / IE2
Output (kW)	0.73 up to 185 kW
Number of poles	2, 4, 6, 8
Voltage (V)	upto 1100 V
Frequency (Hz)	50 Hz or 60 Hz
Service Duty	All except S2
Cooling method	TEFC, ODP, TEAO
Degree of protection	IP 00 up to IP 66
Area classification	Safe and hazardous area
Altitude	All
Ambient temperature	All
Required documentation	Register by model

*IEC is a trademark of International Electrotechnical Commission and is not owned by or under the control of Regal Beloit Corporation.

ENERGY EFFICIENCY ASIA



ENERGY EFFICIENCY

ASIA

CHINA



GB3

MEPS (Minimum Energy Performance Standard)	Current	New 06/2021
Regulation	Decree no. 35	Decree no. 35
Standard	GB 18613-2012	GB 18613-2020
Power supply system	Three-phase	Three-phase
Minimum energy performance	GB3	GB3
Minimum energy performance when motor is operated with inverter frequency	GB3	GB3
Output (kW)	0.75 up to 375 kW	0.12 up to 1000 kW
Number of poles	2, 4, 6	2, 4, 6, 8
Voltage (V)	up to 1000 V	up to 1000 V
Frequency (Hz)	50 Hz	50 Hz
Service Duty	S1 or S3 $\geq$ 80%	S1 or S3 $\geq$ 80%
Cooling method	TEFC	TEFC
Degree of protection	IP 44 up to IP 66	IP 44 up to IP 66
Area classification	Safe and hazardous area	Safe and hazardous area
Altitude	up to 1000 m	up to 1000 m
Ambient temperature	-15 up to 40 °C	-15 up to 40 °C
Required documentation	Register by model	Register by model
Requirement	Energy efficiency level label. Nameplate shall record: • Name of manufacturer in Chinese • Marking GB 18613-2012 and its efficiency Value • Term "Three-phase induction motor" 	Energy efficiency level label. Nameplate shall record: • Name of manufacturer in Chinese • Marking GB 18613-2020 and its efficiency Value • Term "Three-phase induction motor" 

Images are for representative purpose only.

ENERGY EFFICIENCY

ASIA

INDIA



IE3

IE2

IE1

GB3

MEPS (Minimum Energy Performance Standard)	Current
Regulation	The Gazetteer of India S.O.178
Standard	IS 12615:2018
Power supply system	Three-phase
Minimum energy performance	IE2
Minimum energy performance when motor is operated with inverter frequency	NA
Output (kW)	0.12 up to 1000 kW
Number of poles	2, 4, 6, 8
Voltage (V)	Up to 1000 V
Frequency (Hz)	50 Hz or 50/60 Hz
Service Duty	S1
Cooling method	IC411 (TEFC), IC416, IC417
Degree of protection	IP 23 up to IP 66
Area classification	Safe area
Altitude	Upto 4000 m
Ambient temperature	-20 Up to 60 °C
Required documentation	Certificate
Requirement	The motor must be identified with the logo. 

Images are for representative purpose only.

*ISI is a trademark of Bureau of Indian Standards and is not owned or under the control of Regal Beloit Corporation.

ENERGY EFFICIENCY

ASIA

JAPAN


IE3

IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current
Regulation	Energy Saving Act / Top Runner Program
Standard	JIS C 4034-30
Power supply system	Three-phase
Minimum energy performance	IE3
Minimum energy performance when motor is operated with inverter frequency	NA
Output (kW)	0.75 up to 375 kW
Number of poles	2, 4, 6
Voltage (V)	up to 1000 V
Frequency (Hz)	50 Hz, 60 Hz or 50/60 Hz
Service Duty	S1 or S3 $\geq$ 80%
Cooling method	All
Degree of protection	All
Area classification	Safe area
Altitude	All
Ambient temperature	From -20 °C and above
Required documentation	Self declaration
Requirement	Importer must provide a self declaration for Efficiency level.



IE3

IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current	
Regulation	BOD MEETING N° 163	
Standard	SASO 2893:2018	
Power supply system	Three-phase	Three-phase
Minimum energy performance	IE3	IE1
Minimum energy performance when motor is operated with inverter frequency	IE1	IE1
Output (kW)	0.75 up to 375 kW	
Number of poles	2, 4, 6, 8	
Voltage (V)	up to 1100 V	
Frequency (Hz)	60 Hz or 50/60 Hz	
Service Duty	S1, S3 ≥ 80%	All
Cooling method	TEFC, ODP	All
Degree of protection	IP 00 up to IP 66	
Area classification	Safe area	Safe area, when different of S1 and S3≥80%, and hazardous area
Altitude	Up to 4000 m	
Ambient temperature	-20 up to 60 °C	
Required documentation	Energy Efficiency Certificate by model	Exclusive application certificate by model
Requirement	Smart Code on the nameplate, used on the registered motor.	

ENERGY EFFICIENCY

ASIA

SINGAPORE



IE3

IE2

IE1

IE0

MEPS (Minimum Energy Performance Standard)	Current
Regulation	Energy Saving Act / Top Runner Program
Standard	IEC®* 60034-2-1
Power supply system	Three-phase
Minimum energy performance	IE3
Minimum energy performance when motor is operated with inverter frequency	IE3
Output (kW)	0.75 up to 375 kW
Number of poles	2, 4, 6
Voltage (V)	up to 1000 V
Frequency (Hz)	50 Hz, 60 Hz or 50/60 Hz
Service Duty	S1 , S3 ≥ 80%, S6 or S9
Cooling method	TEFC, ODP, TEAO
Degree of protection	All
Area classification	Safe area
Altitude	up to 1000 m
Ambient temperature	-30 up to 60 °C
Required documentation	Certificate
Requirement	Importer's registered motor.

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ENERGY EFFICIENCY

ASIA

SOUTH KOREA


IE3
IE2
IE1
IE0

MEPS (Minimum Energy Performance Standard)	Current
Regulation	MKE-2017-206
Standard	KS C IEC®* 60034
Power supply system	Three-phase
Minimum energy performance	IE3
Output (kW)	0.75 up to 375 kW
Number of poles	2, 4, 6, 8
Voltage (V)	up to 600 V
Frequency (Hz)	60 Hz
Service Duty	S1, S3 > 80%
Cooling method	TEFC, ODP
Degree of protection	All
Area classification	Safe and hazardous area
Altitude	All
Ambient temperature	-15 up to 40 °C
Required documentation	Register by model
Requirement	Energy efficiency level label 

Images are for representative purpose only.

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