











	Europe (EEA) 	Switzerland 	Turkey 	USA 	Canada 	Brazil 	Australia/New Zealand 	South Korea 	China 	India 	Chile 	Mexico 	Japan 			
Line voltage (3x...)	400 V	400 V	380 V 400 V	480 V	480 V 575 V	380 V (220 V / 440 V)	400 V 415 V	380 V 440 V	380 V	415 V	380 V	440 V	200 V 220 V (60 Hz) 400 V 440 V (60 Hz)			
Line voltage tolerance	± 10%	± 10%	± 10%	± 10%	± 10%	± 10%	± 5%	± 10%	± 10%	± 5%	± 5%	± 10%	± 10%			
Line frequency	50 Hz	50 Hz	50 Hz	60 Hz	60 Hz	60 Hz	50 Hz	60 Hz	50 Hz	50 Hz	50 Hz	60 Hz	50/60 Hz			
Efficiency standard	EN 60034-30	EN 60034-30	EN 60034-30	NEMA MG-1 (IEC 60034-30)	CSA C390-10 (IEC 60034-30)	ABNT NBR 17094-1	AS/NZS 1359.5	KS C 4202	GB 18613-2012 (IEC 60034-30)	IS 12615 (IEC 60034-30)	NCh 3086.0f2008 (IEC 60034-30)	NOM-016-ENER-2010	JIS C 4034-30 (IEC 60034-30)			
Energy efficiency laws - regulations - programs	Directive 2009/125/EC (ErP) Reg (EC) 640/2009 Reg (EU) 4/2014	EnV 730.01 Adaptation of Reg (EC) 640/2009	SGM-2012/2 Adaptation of Reg (EC) 640/2009	DoE 10CFR Part 431 EISA 2007	Energy Efficiency Regulations (EER 2010)	Lei N° 10.295 Decreto N° 4.508 Portaria N° 553	MEPS 2 (2006)	REELS 2011	GB 18613-2012	Voluntary BEE (outdated; based on EFF1/EFF2)	PE 7/01/2	NOM-016-ENER-2010	Energy Saving Act (Top Runner Program) Law no. 237 of Nov 1, 2013			
Valid since	Jan 1, 2015			Dec 19, 2010		Jan 1, 2011		Dec 1, 2009	2006	Jul 1, 2010	Sep 1, 2012	June 2011 IE2 for 0.75 – 15 kW	Jan 4, 2011	Dec 19, 2010	Apr 1, 2015	
Minimum efficiency class	IE2		IE3 or IE2 and frequency inverter		High (~IE2)	Premium (~IE3)	High (~IE2)	Premium (~IE3)	"Alto Rendimento" (~IE2)	IE2	IE2	Grade 3 (~ IE2)	IE1	IE3	IE3	
Power range	0.75 – 5.5 kW		7.5 – 375 kW		>150 – 375 kW	0.75 – 150 kW	>150 – 375 kW	0.75 – 150 kW	0.75 – 185 kW	0.75 – 185 kW	0.75 – 200 kW	0.75 – 375 kW	IE3 for 0.75 – 375 kW	0.75 – 7.5 kW	0.75 – 375 kW	0.75 – 375 kW
Number of poles	2, 4, 6			2, 4, 6 8 (from 0.75 kW)	2, 4, 6	2, 4, 6	2, 4, 6	2, 4, 6	2, 4, 6 (up to 150 kW), 8 (up to 110 kW)	2, 4, 6, 8	2, 4, 6, 8	2, 4, 6	2, 4, 6	2, 4, 6, 8	2, 4, 6	
Exceptions	Duty types except for S1 / S3 (≥ 80%) / S6 / S9, brakemotors, ATEX motors, motors subject to increased environmental influences, motors labeled for inverter operation			Gearmotors, flange motors (if min. "high"), brakemotor, duty types S2-S10, motors labeled for inverter operation, NEMA design C motors (if min. "high")		Gearmotors and flange motors (if min. "high"), duty types S2-S10, motors labeled for inverter operation, NEMA design C and IEC design H motors (if min. "high")		Duty types S2-S10, motors labeled for inverter operation, Ex motors (EPL b)	Duty type S2, motors labeled for inverter operation, gearmotors without motor flange	Duty type S2, motors labeled for inverter operation, motors without built-in fan	Duty types S2-S10, integrated motors, special motors, motors labeled for inverter operation, brakemotors	Brakemotors, motors labeled for inverter operation, duty types S2-S10	Mexico's exemptions are the same as those of the United States	Duty types except for S1 and S3 (≥ 80%), motors with temperature class ≥ H, motors for ambient temperatures of <-20°C, motors labeled for inverter operation, motors with forced cooling fan, Ex motors, other exceptions exist		
Valid as of	Jan 1, 2017			June 1, 2016		No changes known		No changes known	2015 (under discussion, possibly similar to Europe)	Jan 1, 2015	Oct 1, 2016	Oct 1, 2018	2016/2017 (under discussion)	No changes known	No changes known	No changes known
Minimum efficiency class	IE3 or IE2 and frequency inverter			Premium (~IE3)					IE3	IE3	IE3	IE3	Grade 2 (~IE3)			
Power range	0.75 – 375 kW			0.75 – 375 kW						37 – 200 kW	37 – 375 kW	0.75 – 375 kW	7.5 – 375 kW / 0.75 – 375 kW			
Number of poles	2, 4, 6			2, 4, 6, 8						2, 4, 6, 8	2, 4, 6, 8	2, 4, 6				
Exceptions	Duty types except S1 and S3 (≥ 80%) / S6 / S9, brakemotors, ATEX motors, motors subject to increased environmental influences, motors labeled for inverter operation			Duty types S2-S10, fan motors (cooled by a fan), water-cooled motors, motors labeled for inverter operation, submersible motors						Duty type S2, motors labeled for inverter operation, motors without built-in fan	Duty types S2-S10, integrated motors, special motors, motors labeled for inverter operation, brakemotors					
Ex motors affected	No	No	No	Yes	Yes	EPL B no EPL c yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No	No

SEW-EURODRIVE offers AC motors for all efficiency classes

IE1: Motor type DRS.. (0.18 – 200 kW)

IE2: Motor type DRE.. (0.25 – 200 kW)

IE3: Motor type DRN.. (0.75 – 200 kW)

IE4: Motor type DRU.. (0.18 – 3 kW)

Countries or further SEW-EURODRIVE locations without efficiency regulations

Algeria / Argentina / Bangladesh / Belarus / Cameroon / Columbia / Egypt / Gabon / Indonesia / Israel / Ivory Coast / Kazakhstan / Kenia / Lebanon / Macedonia / Madagascar / Malaysia / Mauritania / Mongolia / Morocco / Namibia / Nigeria / Pakistan / Paraguay / Peru / Philippines / Romania / Russia / Senegal / Serbia / Singapore / Sri Lanka / South Africa / Swaziland / Taiwan / Tanzania / Thailand / Tunisia / Ukraine / United Arab Emirates / Uruguay / Venezuela / Vietnam / Zambia



In some cases you additionally have to observe country- and design-specific exceptions. For further information, refer to the responsible sales and product employee or go to the website at www.ie-guide.de