


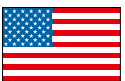











	Europe (EEA) 	Switzerland 	Turkey 	USA 	Canada 	Brazil 	Australia/New Zealand 	South Korea 	China 	India 	Chile 	Mexico 	Japan 			
<b>Line voltage (3x...)</b>	400 V	400 V	380 V 400 V	480 V	480 V 575 V	380 V (220 V / 440 V)	400 V 415 V	380 V 440 V	380 V	415 V	380 V	440 V	200 V 220 V (60 Hz) 400 V 440 V (60 Hz)			
<b>Line voltage tolerance</b>	± 10%	± 10%	± 10%	± 10%	± 10%	± 10%	± 5%	± 10%	± 10%	± 5%	± 5%	± 10%	± 10%			
<b>Line frequency</b>	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			
<b>Efficiency standard</b>	EN 60034-30	EN 60034-30	EN 60034-30	NEMA MG-1	CSA C390-10	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)			
<b>Energy efficiency laws, regulations, programs</b>	Directive 2009/125/EC (ErP) Reg (EC) 640/2009 Reg (EU) 4/2014	Energy Ordinance 730.01	SGM-2012/2 SGM-2015/15	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2010)	Lei N° 10.295 Decreto N° 4.508 Portaria N° 553	MEPS 2 (2006)	REELS 2011	GB 18613-2012 CEL007-2016	Voluntary BEE (outdated; based on EFF1/EFF2)	PE 7/01/2	NOM-016-ENER-2010	Energy Saving Act (Top Runner Program) Law no. 237 of Nov 01, 2013			
<b>Valid as of</b>	Jan 01, 2017			Jun 01, 2016	Jan 01, 2011		Dec 01, 2009	2006	Jul 01, 2010	Oct 01, 2016	Sep 01, 2012 / Oct 01, 2016		Jun/2011: IE2 for 0.75 – 15 kW  Jan 31, 2014: IE3 for 0.75 – 375 kW	Jan 04, 2011	Dec 19, 2010	Apr 01, 2015
<b>Minimum energy efficiency class</b>	IE3 or IE2 with frequency inverter			Premium (~IE3)	High (~IE2)	Premium (~IE3)	"Alto Rendimento" (~IE2)	IE2	IE2	IE3	Grade 3 (~ IE2)		IE1	IE3	IE3	
<b>Power range</b>	0.75 – 375 kW			0.75 – 375 kW	>150 – 375 kW	0.75 – 150 kW	0.75 – 185 kW	0.75 – 185 kW	0.75 – 30 kW	37 – 375 kW		0.75 – 375 kW	0.75 – 375 kW	0.75 – 7.5 kW	0.75 – 375 kW	0.75 – 375 kW
<b>Number of poles</b>	2, 4, 6			2, 4, 6, 8	2, 4, 6 8 (from 0.75 kW)	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	2, 4, 6, 8	2, 4, 6, 8	2, 4, 6
<b>Exceptions</b>	Duty types except for S1 / S3 (≥ 80%) / S6 / S9, brakemotors, ATEX motors, motors subject to increased environmental influences, motors labeled for inverter operation			Duty types S2-S10, TEAO motors Water-cooled motors, Motors labeled for inverter operation, Submersible motors	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, TENV motors	Duty types except S1/S3 (≥ 80%) Integrated motors, Special motors, motors labeled for inverter operation, TENV motors		Brakemotors, motors labeled for inverter operation, duty types S2-S10		Concerning the exceptions, Mexico orients itself toward US requirements	Duty types except for S1 / S3 (≥ 80%), motors with temperature class ≥ H, ambient temperatures of <-20°C, motors labeled for inverter operation, motors with forced cooling fan, Ex motors		
<b>Valid as of</b>	No changes known			No changes known	Jun 28, 2017	No changes known	No changes known	Oct 01, 2018	No changes known	No changes known	No changes known	No changes known	No changes known	No changes known	No changes known	No changes known
<b>Minimum energy efficiency class</b>					Premium (~IE3)			IE3								
<b>Power range</b>					0.75 – 375 kW			0.75 – 375 kW								
<b>Number of poles</b>					2, 4, 6, 8			2, 4, 6, 8								
<b>Exceptions</b>	Duty types except S1 and S3 (≥ 80%) / S6 / S9, brakemotors, ATEX motors, motors subject to increased environmental influences, motors labeled for inverter operation							Duty type S2, motors labeled for inverter operation, TENV motors								
<b>Ex motors affected</b>	No	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	No			

At present

In the future

**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 / Kenya / 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.com](http://www.ie-guide.com)