Stricter requirements for motor ecodesign

The European Commission's (EC) ecodesign committee has approved a new, stricter version of the ecodesign requirements, which take effect from July 1, 2021

Presently

Presently, the scope of the regulations only covers 3-phase motors ranging from 0.75 kW to 375 kW with 2, 4 or 6 poles, leaving motors outside this power range excluded. This legislation allowed for an IE2 motor to be used provided it was controlled by a VSD, but this will no longer be valid.

The future

From July 2021, this will no longer be the case. The impending regulation requires all new 2-, 4-, 6- and 8-pole motors in the power range of 0.75-1000kW to meet IE3 efficiency class. Also sizes from 0.12-0.75 kW will need to meet IE2 class.

Special purpose motors, including those used in potentially explosive atmospheres, were exempt from the previous regulation. From July 2021, new hazardous area motors entering the supply chain must be rated IE3 or higher with increased safety motors Ex eb being exempt, these motors will need to be at least IE2 efficiency level by 2023.

Minimum Efficiency of Electric Motors and Variable Speed Drives

Regulation scope		Year and minimum efficiency requirements (2015 onwards)						
AC induction motors <= 1000 V		**2015**	**2017**	**2018 - 2020**	**2021**	**2022**	**2023**	**Onwards**
0.75-7.5 kW	3 phase, 2/4/6 pole	IE2	IE2+VSD/IE3	→	IE3	→	→	→
7.5-375 kW	3 phase, 2/4/6 pole	IE2+VSD/IE3	→	→	IE3	→	→	→
75-200 kW	3 phase, 2/4/6 pole						IE4	→
0.75kW-1000kW	3 phase 2,4,6,8 pole				IE3	→	→	→
0.75-1000 kW	ATEX/Brake all poles				IE3	→	→	→
0.12kW-1000kW	Ex eb all poles						IE2	→
0.12kW & above	1 phase all poles						IE2	→
0.12-0.75 kW	3 phase/brake all poles				IE2	→	→	→
Variable speed drives		**2016**	**2017**		**2021**	**2022**	**2023**	**Onwards**
0.12kW-1000kW				**2018 - 2020**	IE2	→	→	→

The table above shows the regulation scope and timeline, the boxed area corresponds to the current regulations (in bold)

Energy efficient motors for explosive atmospheres have been available from WEG for many years, but with no obligation to to use them, some businesses opted for low efficiency motors, possibly due to the cheaper upfront costs.

WEG's hazardous area motors already meet the IE3 and future IE4 regulations and are certified for use in all global markets with ATEX, IECEx and EACex approvals.

for more information on energy efficient and hazardous area motors contact **info-uk@weg.net**