

IMPROVED DESIGN AND EFFICIENCY TIPS BALANCE TOWARD HV MOTOR REPLACEMENT

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Compared to HV machines designed 20 to 30 years ago, advances in technology allow for these HV units to often be manufactured smaller than the originals, says David Spohr, Zest WEG Group's newly appointed business development executive. He works with customers to optimise their HV motor operations.

WEG's HV motors are typically purpose-built to meet the precise needs of the customer. While smaller in dimensions compared to the original older HV motors, these motors still deliver the required performance at even higher output and efficiencies.

"As a leading technology provider of a wide range of motor products, we have the capability to design a replacement motor to match the footprint of the original unit," Spohr says. "This means it is not necessary for the customer to modify mechanical infrastructure or electrical design to accommodate an upgraded motor."

He notes that, with the design lifespan of electric motors which ranges between 20 to 30 years, there are still many old units in operation around South Africa. Technological improvements in motor design and efficiency, however, present a compelling case for the replacement of old units rather than repeated repairs.

more efficient to replace hv motors

Spohr highlights that the cost of a major motor overhaul could be up to 60% of the cost of replacement. The advanced technology of the new units, however, bring important benefits. Key among these are reliability and efficiency, which means improved operational performance and direct savings in energy consumption

“When motor failures occur, Zest WEG Group has the ability to conduct a detailed on-site analysis,” Spohr says. “Based on a root-cause analysis, we can provide a failure assessment which will enable the customer to make an informed decision.”

The assessment includes an energy consumption analysis conducted with specialised software. In the light of the machine’s application, Zest WEG Group recommends enhancements for greater control and efficiency. These include motor control options such as variable speed drives (VSD) for applications such as fans and pumps.

“There are also significant productivity benefits from a new, more reliable motor,” says Spohr. “Unplanned downtime can severely erode plant performance, reduce output and risk supply relationships with customers. All this needs to be considered in the decision to continue repairing old motors.”

Captions

HV PIC 01 : WEG M mining line three phase induction motor specially developed to be robust.

HV PIC 02 : WEG W60 three phase induction motor ensures high performance and reliability.

HV PIC 03 : High voltage mill drive motor in operation at a mine in South Africa.

HV PIC 04 : WEG wound rotor induction motor installed on site.

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