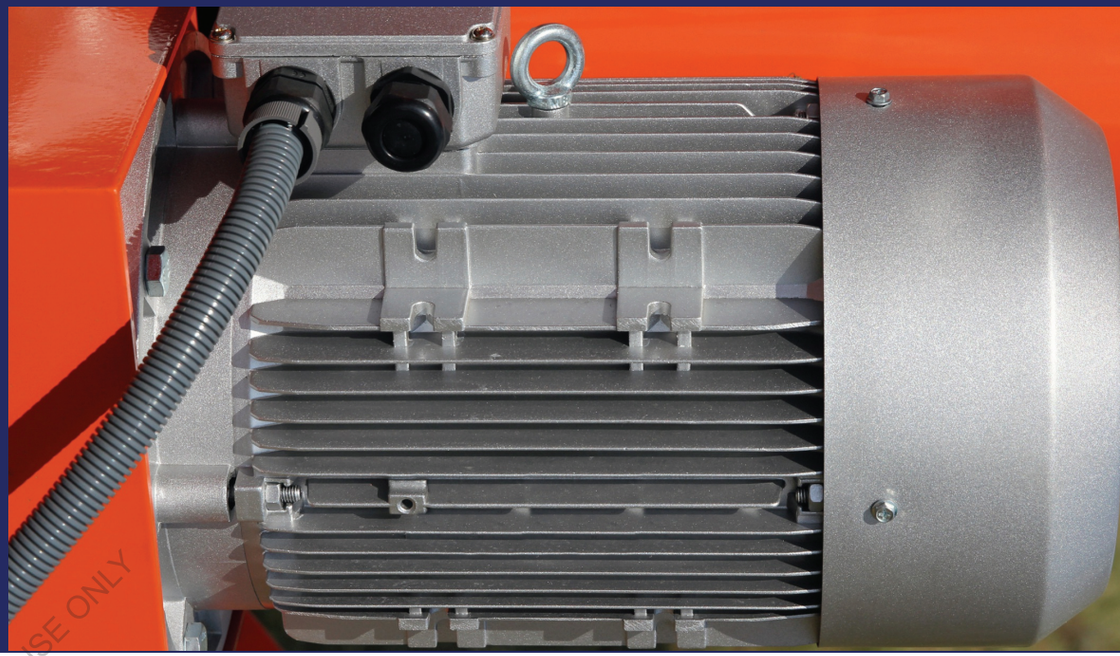
In this work, a new control strategy for PFC of three phase PWM AC chopper using HBCC technique fed three phase squirrel cage IM with soft starting and speed control operating modes is proposed. The power circuit of the proposed control strategy is simple, reliable, high efficiency and low cost as it has reduced number of power semi conductor switches. The three phase PWMAC chopper consists of four IGBTs. A new closed-loop control strategy, that uses only two gate pulses to drive the four IGBTs, is achieved. The proposed control strategy has three main control objectives: soft starting, speed control and input PFC, which are achieved by adjusting the RMS value of the input voltage fed the IM terminals. The proposed control strategy is investigated, analyzed and simulation results are obtained under different testing conditions.



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AC Chopper Fed Induction Motor Drives with HBCC Technique

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