



# Application Note *for* Improvement of Motor Performance in Plastics Industry

**Start & Save**  
*with the*  
**Right Voltage**

**MCP Ltd Plastics  
Factory Increased  
Profitability**

**Reduced direct kWh  
reading by 15%**

**Reduced current and  
total power by 46%**

**Reduced network &  
transformer losses  
by 71%**

**Reduced reactive  
power by 49%**

**Loads:**

Granulators,  
shredders, bailers,  
vacuum pumps,  
hydraulic pumps,  
perforators



## The Right Voltage Solution

With increase of electricity prices and competition, managers in plastic industry are looking for solutions to cut electricity bill and reduce operation expenses. The SinuMEC improves overall performance of electric motors in the plastic industry such as granulators, vacuum pumps, hydraulic pumps, shredders, bailers and perforators. Typically, these machines operate at constant speed with variable loads, thus wasting energy when the load is low. The SinuMEC improves energy efficiency of these motors and reduces electrical consumption by supplying the right amount of energy required to operate the motor according to the most efficient working conditions. The SinuMEC also reduces line capacity (kVA) allowing machines with higher production capacity/throughput to be installed on the same infrastructure. SinuMEC supplies pure sinusoidal voltage to the motors during startup and general operation without creating harmonics. This reduces motor working temperature and significantly reduces the motor LCC Life Cycle Cost.

SinuMEC	7.5KW – 150KW
Input Voltage	400V/480V
Efficiency	99.5%
THD	<1%
Bypass Contactor	Built-in
Startup current	1.2 times the nominal (typ.)

[www.powersines.com](http://www.powersines.com)

## Benefits

- Add production capacity** by reducing kVA demand
- Improves reliability** of motor
- Reduces wear** on belts and gears
- No change to motor speed** or torque
- Improves energy efficiency** reducing electrical consumption

## Multi-Functional Controller

- Sinusoidal voltage control** for maximum efficiency of motors with variable loads
- Improved motor start-up** using pure sinusoidal voltage instead of soft-starters, protects the motor and saves costs on replacement parts
- Increased life expectancy** by reducing voltage, mechanical and temperature stresses
- Reduced active power** consumption up to 15%
- Reduced conduction line losses** by up to 75%
- Harmonics free and harmonic filtration** reducing heat, losses and equipment failures
- Power factor correction** (cos  $\phi$ ) for up to 60% improvement in operations
- Motor protection** against faulty network conditions and equipment malfunctions

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