

SyncroSpeed excels with Engels

SyncroSpeed is a dynamic motor speed control system. As a retrofit to any brand of hydraulic injection moulding machine, significant reductions can be made in energy consumption and operating costs of the machine.

Comprehensive trials on the first Engel 500t were so successful, the customer responded promptly to order eight additional systems for other Engel machines in two European moulding plants. Within a year, the installation programme was rolled out to also include plants in Korea, India, and Mexico. The programme extended to over 100 machines, from six different manufacturers, of which 50 were Engels ranging 500t – 750t.

The majority of Engel machines were two-motor with CC90 or CC100 controllers, operating at 50Hz in Europe and 60Hz in Mexico. The SyncroSpeed system was designed for both regions, and took full advantage of the host closed-loop control features to maximise the energy savings while delivering standard cycle times and maintaining all part quality measures. The SyncroSpeed control independently regulates each motor speed, provides full speed and pressure on demand, and manages all combinations of plasticising/clamp/ejector/core parallel movements.

Particularly with this series of Engel machines, increased plasticising rates could be achieved, so reducing the frequency of setups requiring an inefficient plasticising/clamp parallel movement. This also avoided the consequent loss of absolute speed control and also led to some gains in cycle time.

machine	Engel 550t	cycle time	29.5 secs
motors	55kW + 55kW	component	storage box
power without SyncroSpeed	53.9kW	material	polypro
power with SyncroSpeed	28.6kW	shot weight	385 g
energy saving	25.3kW		-46.9%

**energy saving
dynamic motor
speed control
system**

**35% - 48%
reduction in
energy costs**

**part quality &
productivity
maintained**

**reduced cooling
load**

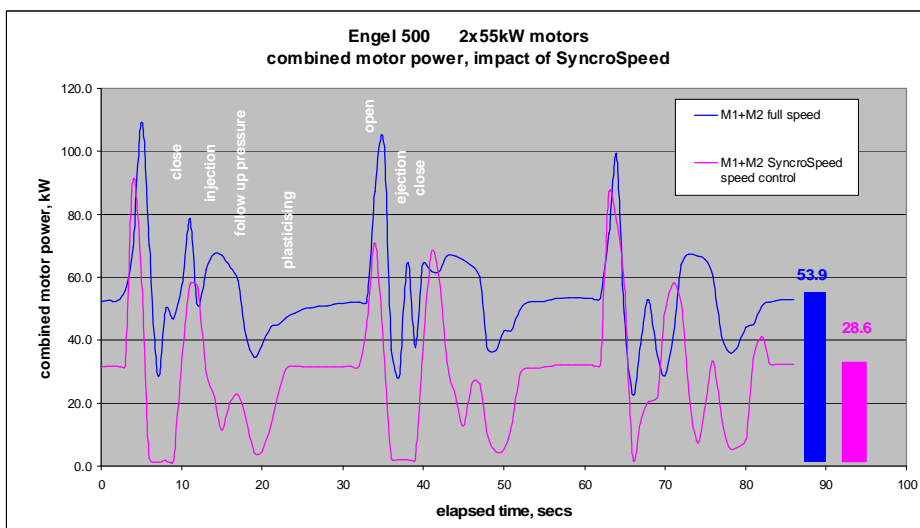
**quieter working
environment**



two-motor SyncroSpeed enclosure mounted on Engel ES4400/500



single 90kW SyncroSpeed enclosure mounted on Engel ES4550/600



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