

New Hygienic energy efficient line start synchronous motors



Today's industry is very aware about reducing energy use and lowering the carbon footprint. Engineers are always searching for new methods to improve the efficiency of their products. Recent developments in the food industry have showed again that besides energy saving, the hygienic design is of high importance too.

Already in 2009 Dertec started to develop a complete line of stainless steel motors and geared motors. According to the valid standards these motors comply with IE3 and offer the best possible hygiene, cleanability and sustainability.

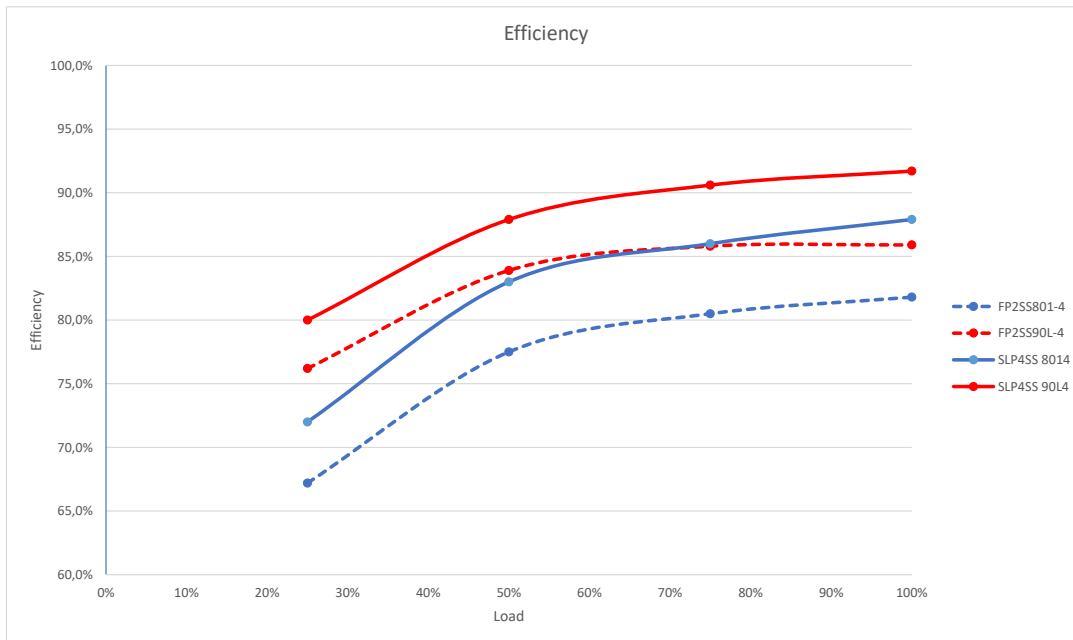
Recently Dertec has developed a new line of Hygienic Stainless Steel Synchronous Motors.

The key facts:

- Line start no need of an inverter
- IE4 / IE5 Efficiency
- High Cos Phi, also at partial load
- Low Delta K
- Lower Carbon Footprint
- Optional encoder for speed and position control
- IP69K
- High Efficiency, also at partial load
- Frame sizes IEC71, IEC80, IEC90
- Power from 0.25kW up to 1.5 kW

Motor efficiency

Dertec Standard FP2SS compared to Synchronous SLP4SS motors



The above figure shows the motor efficiency at full load of Dertec SLP4SS motors. These are remarkable higher (8 - 10 %) than the values of the standard FP2SS Asynchronous motors. The Dertec SLP4SS Synchronous motors offers IE5 efficiency at full load! In partial load 25 / 50 / 75 % the efficiency is also between 8 - 10 % higher compared to standard motors. In many applications AC motors are being used at partial load between 50 - 75 % The use of energy efficient Dertec SLP4SS motors results in lower power usage and lower carbon footprint.

Power Factor

Dertec Standard FP2SS compared to Synchronous SLP4SS motors



The above figure shows that standard AC Asynchronous motors have a low Cos Phi at partial load. The Dertec SLP4SS AC Synchronous motors have a very high Cos Phi at partial load too. Due to the properties of the Dertec PM synchronous motor the Cos Phi of these motors is almost the same at partial as at full load. In many situations AC motors are being used at partial load between 50 & 75 %. The use of Dertec SLP4SS motors results in lower power usage and a lower carbon footprint.