

APPLICATION SOLUTIONS

Subject:

Production of IBUPROFEN which runs on a Synthesis 700 with 40rpm turret rotation speed

Goal:

Increased machine output speed and a continuous production without any cleaning issues

Challenge / conditions:

Powder characteristics:

- Poor flowability of the powder
- Product is temperature sensitive and starts sticking after 35°C
- Sticking issues (film) on die table when machine runs faster than 45rpm

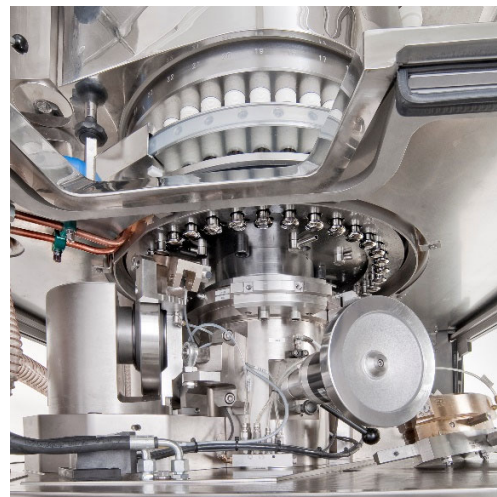
KILIAN design proposal:

Usage of KILIAN KTP 420X / 720X because of optimisation for temperature sensitive products:

- Siemens torque drive with water cooling device
- Additional cooling loop for V-seal ring
- Optimised pressure rollers and bolts to reduce heating up
- Highly efficient filling system



Cooling device Siemens torque drive



Additional cooling loop V-seal ring

Result:

Trials were done on a KTP 420X equipped with oblong punches 16x7mm, 25°C room temperature and humidity under 50%. The warmup of the machine was done using placebo. The original product was run for 4hrs. with 65rpm turret rotation speed and the temperature of the machine, die table and punch tips did not exceed 30°C. Furthermore no sticking issues on the die table or punch tips were noticed.

Suitable applications: Any other temperature sensitive products.