

APPLICATION SOLUTIONS

Subject:

Production of effervescent tablets, customer visited a competitor to make trials with original product. The archived output speed was 90.000Tabl/h

Goal:

Increased machine output speed on a KILIAN tablet press

Challenge / conditions:

Powder characteristics:

- Poor flowability of the powder

KILIAN design proposal:

Material and design adapted to product:

- Special conical feeding tube
- Modification on lower part of fill shoe housing with special inlet
- Fill shoe with customized paddle wheel
- Separate speed adjustment of paddle wheels
- High rotation speed of paddle wheels
- Modification on upper part of fill shoe housing for better venting



Conical filling tube for better product flow



Fill shoe with chimneys for better de-aeration

Result:

Trials were done on a KTP 420X equipped with F441 punches, tablet diameter 23.5mm, 17°C room temperature and humidity about 12%. The compaction force was about 77kN and the pre-pressure about 38kN. The warm up of the machine was done using placebo. With original product we achieve up to 120.000Tabl./h and the relative standard deviation for the compaction force was 3.7%. KILIAN would recommend to use also a customized 10mm fill cam for this product, during the trials we have used a stock 12mm size which can be too big if the output speed must be reduced.

Additional applications: Any poor flowing products.