

REDUCING FILTRATION TIME AND RECOVERING DEAD VOLUMES

A leading European pharmaceutical manufacturer specializing in **hormone production** was losing 5 to 10 % of product per batch to dead volume, with filtration cycles running over 2 hours.

Masterfilter GmbH reviewed the filtration system, re-engineered the drainage design and a new capsule filter was installed cutting filtration time by 50 % and recovering 98 % of previous dead volume.

BUSINESS CHALLENGES

- **Dead Volume:** 5 to 10 % of product loss per batch in formulation and filling area.
- **Drainage Limitations:** the filtration process configuration made line drainage impossible.
- **Filtration Time:** Average filtration cycle exceeded 2 hours on average per batch, limiting throughput volume.

SOLUTION

FILTER SIZING & PROCESS OPTIMIZATION

We performed filter sizing study to decrease the throughput filtration time without compromise on quality.

DOWNSTREAM VENT FILTRATION

We applied a vent filter downstream, enabling complete drainage of filling line and recovery of 98% of dead volume

FILTER MEDIA SELECTION & VALIDATION

Our lab scale trials identified the optimal Capsule with **PES filter media** and pore size, improving filtrate quality.



RESULT AND BENEFITS

- 50 % decrease in filtration time
- 98 % dead volume recovered
- Improved filtrate quality
- Faster and efficient batch

CONCLUSION

The new solutions provided by Masterfilter GmbH have effectively addressed the client's core challenges in operational efficiency and delivered significant improvements using our expertise and PES capsule filters.

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