



Project:

MultiFedMoF

Multipurpose Fermentation
Plant for Peptide Antibiotics

Customer:

Anonymus AG
Germany

Ref.-No.:

042

Design of a Fed-Batch Fermentation and Preparation for the industrial Synthesis of Peptide Antibiotics

Peptide antibiotics serve as inhibitor at the cell wall synthesis of pathogenic gram-negative agents (e.g. pseudomonas). Their therapeutic application is amongst others in the treatment of infections, burns and after skin transplantations. Furthermore the group of active ingredients is applied as feeding stuff antibiotics. The worldwide annual production is ca. 500.000 kg.

Our customer, a medium-sized and research-based pharmaceutical company, set themselves the target to produce and market a multitude of peptide antibiotics industrial via new production strains. The fast realization of the plant-engineering conditions and for this needed investments shall be evaluated simultaneous with the in-house research group via feasibility studies and planning activities.

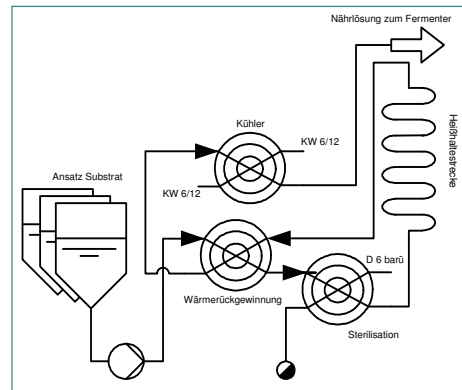


Fig.: Illustration of the continuous substrate sterilization.

Objective for the team of PROCESS.ING LifeSciences, formerly Axima Pharma / AXI.TECH GmbH, is the design of a facility, which offers a maximum of flexibility and dependability for up to 25 Fed-Batch techniques in production norm.

The basic functions and operations as well as the recipes are to be automated via a process control system.

The reconditioning steps from cell disruption to drying get realized by package units, which can be connected with each other via transfer systems to minimize the manual interferences.

The project team solved the task by using a continuous substrate sterilization connected in series as well as a complete tubed constellation of pre-fermenter and production fermenter.

The achievement of the PROCESS.ING LifeSciences project team is the investment protection, the most possible flexibility and facility availability during the production and scale-up running as well as a contributing head start to readiness for marketing and first pick availability for our customer.

Quality and Technics:

Multipurpose Fermentation Plant for Peptide Antibiotics

Upstream:

- Vaccines conservation;
- Manufacturing / storage of shake-cultures;
- continuous substrate sterilization (Fed-Batch-Batterie);
- 8 pre-fermenter 800 l;
- 4 pre-fermenter 3.000 l;
- 2 production fermenter 90.000 l.

Downstream:

- Extractive cell disruption;
- Extraction;
- Chromatography using ionic-exchange;
- Coolant crystallization;
- Spray drying.

Services:

Agreement category:

- Service contract.

Consulting:

- Feasibility study;
- GMP-/ CSV risk analyses.

Design and Tender:

- Conceptual Design;
- Extended Basic Design;

for plant technology / mechanics and E&IC and automation systems.

Total Installed Costs:

9.000,00 kEUR

Time Frame:

Project started: 08/2001
Project close-out: 05/2002

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