



DESIGN OF METHANOL RECOVERY DISTILLATION COLUMN

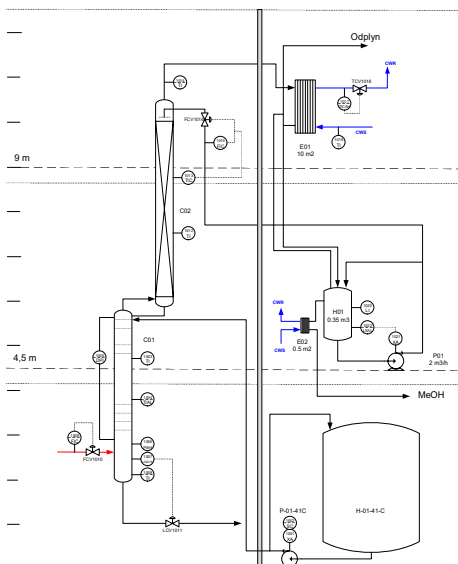
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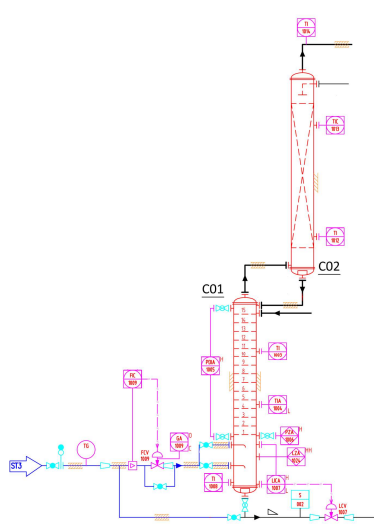
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VUAB Pharma is a long-standing manufacturer of Nystatin. In the production of Nystatin, an aqueous methanol solution is formed that further contains minor components and, above all, dissolved biological material. Distillation of such a mixture on a continuous column is not a simple task with respect to precipitation of dissolved components due to a change in methanol concentration. The distillation plant was designed at UCT Prague, and in 2019 the plant was successfully industrially implemented. The distillation column was divided into two separate parts so that the bottom part could be easily cleaned. The upper part is equipped by Mellapak orientated column packing, and slit trays (manufacturer: Sulzer) are installed in the lower part of the column, where the latter is convenient due to a high reached efficiency corresponding to the difference between the installed trays and, in particular, a simple disassembly of the trays.

The process flow diagram (PFD) proposed by UCT Prague



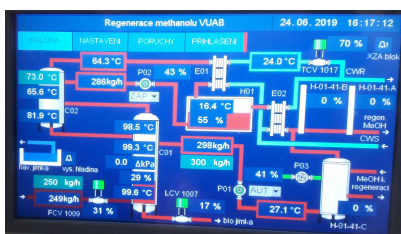
The piping and instrumentation diagram (P&ID) designed by Pento



Slit trays in C01 column



The new process control panel expressing the functionality of the realized plant



The comparison of 3D model and industrially implemented reflux drum



3D model vs. industrially implemented distillation unit



PENTO Ltd. was established in 1992 by founders being a group of specialists with long experience in chemical industry. Main company activity lies in EPC contracting in refineries and within chemical, petrochemical, gas and power industries, as well as within food, glass and fat industries.



VUAB Pharma Inc. is a traditional Czech manufacturer in the field of pharmacy. The company produces Nystatin, final dosage forms (dry injection) and intermediates for producing cytostatics.