

## **CALAMBIO – RAW ALCOHOL DISTILLERY FOR LANTMÄNNEN REPPE AB**

### **1 INTRODUCTION**

Lantmännen Reppe AB in Lidköping produces rectified alcohol for human consumption, gluten, starch and animal feed products from wheat. The plant's capacity exceeds 13 tons wheat flour per hour.

Calambio managed the complete project of a new raw alcohol distillery in 2009-2010. The distillery was built for a capacity of 150 000 hlap (hecto liters of alcohol pure, 100 liter 100% alcohol) and in 2016-2017 expanded to about 175.000 hlap. In everyday language this equals more than 50 million bottles of vodka annually.

The plant is operating according to capacity with high availability.



*Photo – Raw spirit distillery at Lantmännen Reppe.*

## 2 PROCESS DESCRIPTION

Wheat flour/starch from the wet starch production is mixed with water and processed in liquefaction, saccharification and fermentation steps to create the alcoholic mash (~5 % alcohol) in a continuous process that is the raw material to the raw alcohol distillery. Yeast is separated from the mash and recirculated to the fermentation step and the mash is fed to the distillery. In the distillery, the mash is heated and distilled in two mash columns and one rectification column.

The distilled raw alcohol (~92% alcohol) is stored in storage tanks and later further processed to rectified alcohol. The main by-product from the distillery is stillage, which is used for animal feed. Other by-products are fusel oil, propanol fractions and luter water.



*Photo – Part of raw distillery process plant. The whole distillery building is classified according to Atex regulations.*

## 3 PROJECT SCOPE

Calambio had the overall project management role, with work including:

- Specification and procurement of key distillation technology
- Complete design of utility systems including steam, condensate and cooling water
- Complete piping engineering
- Retrofitting of existing liquefaction, saccharification, fermentation and yeast separation processes

- Specification and procurement of over 1.000 instruments and valves
- Functional descriptions and documentation
- Long-term support with process management and development – from idea to years after completion

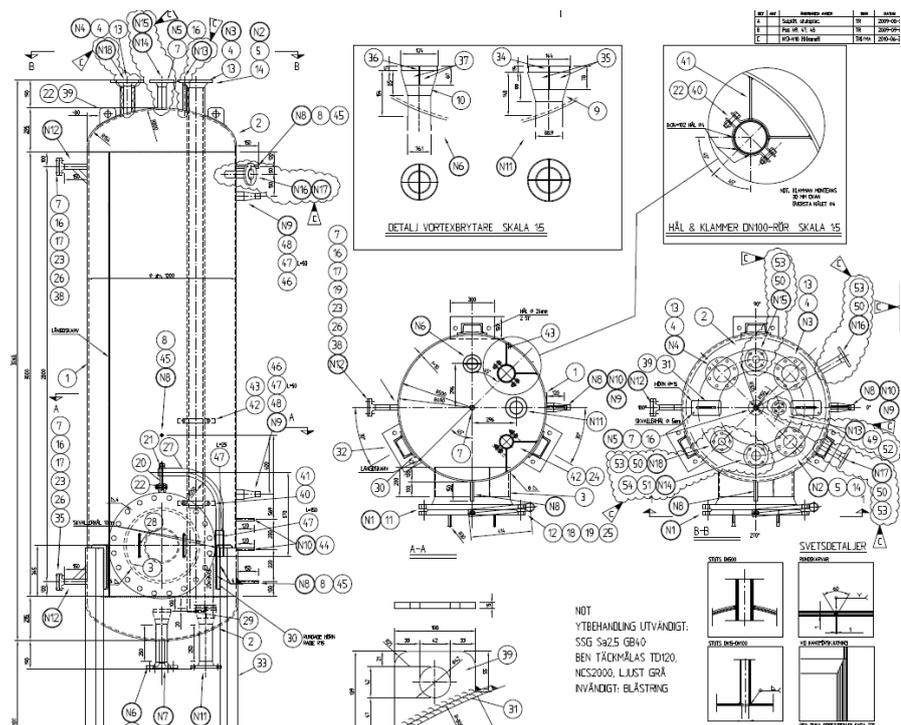


Figure – Detail from pressure vessel drawing, designed by Calambio.

The complete project had a total turnover of 12 M€ in 2010.

## 4 CONTACTS

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