

Cognis, one of the world's leading chemical companies, uses four Clayton Steam Generators to provide essential high pressure steam at 90 bar for its advanced production processes.

The Cognis Chemical Plant at Bousens, which is 70 kilometers from Toulouse was founded in 1933 and specialises in a wide range of oleochemicals.

Oleochemicals are chemicals derived from renewable raw materials such as the oils from coconuts, palm kernels, rapeseed, sunflowers and soybeans. Many of the manufacturing steps at the plant require a reliable source of very high pressure steam and the Clayton Steam Generator is ideal for this type of application because of the advanced principle of operation which comes from the unique helical coil design.

In a Clayton Steam Generator water flows through a single continuous coil from the top to the bottom while heat is passed upwards in the opposite direction over the outside of the



coil. This counter-flow action produces maximum thermal efficiency which results in lower running costs.

The unique coil design also means that the Clayton Steam Generator is much smaller in size and weighs much less than any other method of producing steam - and in high pressure applications the benefits are even more substantial.

The knock-on advantages of the helical coil design are the ability to safely achieve extremely rapid start-up from a cold condition as well as rapid responses to varying load demands. These features are significant in modern chemical plants which have a variety of processes running at the same time.

The four Clayton Steam Generators at the Bousens facility are Clayton Model EG-604-90 which together can produce 44 tonnes of steam per hour. They are used for five months of the year directly in the production processes and

for the other seven months they become auxiliary boilers to back-up to the plant's Combined Heat and Power system.

Three of these Clayton Steam Generators were supplied in 2002 and - due the success of the installation - Clayton were first choice when a further unit was required in 2008 to increase capacity.

Cognis is a worldwide supplier of innovative specialty chemicals and nutritional ingredients, with a particular focus on the areas of wellness and sustainability. The company employs around 5,900 people, and operates production sites and service centres in almost 30 countries. Cognis has dedicated its activities to a high level of sustainability and delivers natural source raw materials and ingredients for food, nutrition, and healthcare.