



Keeping it Cool at Air Liquide: Hot topics in Cryogenic Distillation

Jacopo Seiwert & Lionel Vincent¹

Air Liquide's R&D activities encompass a variety of technologies associated with the production and the applications of small molecules. Our team of 20 people focus on cryogenic technologies of production, and in particular air distillation, a century-old but ever-advancing topic. The first half of our presentation will illustrate how this process is carried out at an industrial scale, with a live demonstration of air distillation (prone to the unpredictability of live performance ... and self-embarrassment !). At the heart of the distillation process are structured packings: thin aluminium sheets featuring holes and corrugations to ensure an intimate contact between the downflowing condensate and the upflowing vapor; in the second half of our talk, we show how a fundamental study on the effect of perforations on a downflowing liquid film has led to an improved packing geometry that offers significant gains in distillation plants.

¹ Air Liquide – France (lionel.vincent@airliquide.com ; jacopo.seiwert@airliquide.com).