

Grosch – IVG10-C + Nano CoolWater skid

Type of industry Brewary
Cooling type and cooling towers: Evaporative condensers for ammonia cooling

Before IVG installation

Evaporative capacity in MW 8,9 MW
 Water evaporation 13,85m³ / hr
 Water consumption 23,74m³ / hr
 Cooling water thickening 2,40
 Chemical consumption 1760 kg
 Discharge waste water on: privately owned waste water treatment

After IVG installation

Evaporative capacity in MW 8,9 MW
 Water evaporation in m³ / hr 13,85m³ / hr
 Water consumption in m³ / hr 15,38m³ / hr
 Decrease water consumption in% -/- 13%
 Cooling water thickening (COC) 5,00
 Chemical consumption 0 kg
 Decrease chemical consumption in% -/-100%
 Return on Investment full operational lease, savings -/- 37%

IVG technology

Absorbed power IVG10-C + Nano CoolWater skid
 6 KW
 Discharge waste water privately owned waste water treatment



About Grolsch

Grolsch needs little introduction. They are known from their particular bottle, their rich heritage and their special beers. And their distinct taste. Grolsch is sometimes seen as different, as quirky, but you can also call it character. Character is the self-confidence and the conviction to choose your own path, just like Pathema does.

In the past, Grolsch used ice from the Grol canal for decades. They used it during the summer for cooling purposes. The ice was cut out in the winter and kept in isolated cellars. In the 'cooling water business' you could call this circular working 'avant la lettre'. A lot has happened in that area since then.

Phase I: Hot summers

In the years prior to the final installation of the IVG-C installation, there had already been telephone contact between the two companies for technical reasons. Grolsch had a recurring problem. Because in the warm summer months biofouling was formed in the cooling towers, a slimy layer that clogged the nozzles. This phenomenon came back every summer and that had a serious consequence: corrosion on the zinc pipe bundle. This caused microbiological corrosion, causing heat exchangers to wear out more quickly. The increased addition of chemicals in different compositions could not solve that either. From the earlier contact, the link with Pathema was quickly established.

Phase II: Realization

Grolsch had a chemical treatment with two types of chemicals. There are 4 evaporative condensers for the ammonia cooling and 1 cooling tower for the oil cooling. Each tower / condenser had its own water treatment. Pathema then linked all cooling tower / evaporator condensers to 1 system and then one water treatment from Pathema was linked to this. The IVG10C Nano 6 has been placed in a 10-foot plug & play container and was then placed on the roof of the Grolsch facility.

This way, cooling water treatment and supplementation water treatment are combined in one container. The supplementation treatment works with nano filtration. This improves the quality of the supplementation water. Because of that:

- The thickening has been brought to a factor of 5. This resulted in a water saving of 13%
- The phosphate number has been reduced. As a result, there is no longer any question of biofouling
- The chloride number has been reduced, which has reduced the corrosion pressure

The IVG atertreatment also resulted in:

- 100% chemical free coolwatertreatment
- Spray water can be recycled
- Improved safety when cleaning the cooling towers
- Microbiological corrosion stopped completely