

Industrial cooling / continuous production

Extruder cooling in the injection moulding process



Installation of an eChiller35 to cool an extruder for the moulding process at the component construction at Gardena Manufacturing.



Project and implementation

Requirement of nearby located product and production cooling of the extruder for the continuous manufacturing process, which reduces the energy consumption in standby to a minimum. Commissioning of the eChiller35 in 2017 for cold water generation in the temperature range between 16 °C and 20 °C with a power rating of 30kW.

The proximity to the extruder allows direct handling by the operator according to production requirements. The short piping reduces pump size and pump energy consumption. The two free cooling states FreeCooling and FreeCooling+ of the eChiller enable an adjusted setpoint temperature and operating hours.

Customer:

Gardena Manufacturing GmbH, Gerstetten / Germany

Requirements:

- Precise temperature control, fast power regulation
- Cooling close to production
- Reduction of energy costs through FreeCooling
- Sustainable refrigerant

Outcome

Fulfilment of all project requirements as well as ecological and economic goals. Simple handling while changing products and thus changing flow temperatures between 16 °C and 18 °C depending on the dimension. After one year of operation, an annual performance factor of over 16 was determined via eChiller monitoring. Expansion is planned.



25-30 kW depending
on pipe dimension
Cooling capacity (kW)



18 °C
Setpoint temperature



R718 (water)
Refrigerant



42 dB(A)*
Sound pressure level



Air-cooled
Recooling



>16
Annual performance
factor

* measured at a distance of 5 m

