

## Technical Building Equipment

# Solar-powered cooling of offices



eChiller35 for energetic and self-sufficient cooling of the office building of **CombiGtherm GmbH**, a company specialised in the industrial production of cooling systems and heat pumps.



### Project and implementation

When the sun was shining, the building heated up and window ventilation was the only option. Due to the F-Gas regulation, only cooling with natural refrigerants was an option. The eChiller offers a partial load-efficiency, so the cooling of the building during daytime including pre- and post-cooling of the building structure is covered by the combination of electrical and thermal storage (chilled water hydraulics).

**The comfort cooling with a cold water supply temperature of 16 °C is provided via demand-oriented ceiling cassettes. The eChiller is powered by domestic electricity and stands in a sideroom of the stairwell without endangering people.**

### Customer:

CombiGtherm GmbH,  
Fellbach near Stuttgart /  
Germany

### Requirements:

- Cooling with two consumer circuits
- Natural refrigerant
- No restriction on the installation site
- Integrated FreeCooling mode
- Self-sufficient cooling without temperature and current peaks

## Outcome

The chiller has convinced numerous experts with its energy efficiency so far, performance and operational reliability. The first initial cooling validation exceeded all expectations during the first months from April to June especially in facing high ambient temperatures at this time.

The design data and power consumption of the eChiller35 ideally match the grid load capacity of the power storage unit, both in full or partial load range.



**25-30 kW**  
Cooling capacity (kW)



**16 °C**  
Setpoint temperature



**R718 (water)**  
Refrigerant



**42 dB(A)\***  
Sound pressure level



**air-cooled**  
Recooling



**>12**  
Annual performance factor

\* measured at a distance of 5 m

