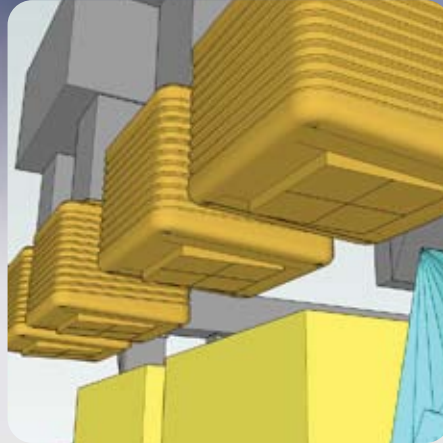


Gravure Print Case Study



The Problem

Gravure printing processes generate large amounts of heat, and use solvent based ink which along with being sensitive to temperature and humidity, can be harmful and explosive. Cooling in environments like these can be a challenge.

In addition the atmosphere surrounding this client's building meant that any plant had to be mounted inside to avoid damage.

The Solution

Six internal coolers were installed, far enough from the presses to avoid causing a risk of explosion due to moving parts, to provide up to 300kW of cooling using just 7.2kW of electricity.

Air was ducted the full length of the three presses, and delivered to the operators where they were working.

Filtered fresh air was provided via 3 air handling units, and delivered directly to the inlets of the coolers.

Extract fans were installed above the false ceiling, create a balanced air flow pattern and remove excess solvent fumes.

In winter the heated air is delivered to the room by the air handling units, and is then circulated through the space by the evaporative coolers operating in ventilation mode.

The Results

Comfortable temperatures are now maintained all year round, while the concentration of solvents has fallen from almost 100% to around 10%.

Interesting Facts

Because this client produces food packaging, a brominating water treatment system was installed to keep the system as clean as possible.