COMFORT AND ENERGY SAVINGS FOR BANKS

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In today's digital age, retail banking is reinventing itself by creating physical retail spaces that are more and more open to the outside world and inviting to their customers. However, this brings with it challenges as it makes them susceptible to changing weather conditions.
Biddle has been a proud partner of Crédit Agricole, Societe Generale, HSBC, Crédit Mutuel, CIC and many other major players in the banking sector. Our approach has been to support the banking industry in developing climate separation solutions that are user-friendly and optimised to deliver sophisticated automated climate control.

THE CHALLENGES

In the majority of high street banks, multiple door entrances are within a few meters away from the reception and outside weather conditions - both hot and cold - entering the building can have a detrimental effect on maintaining a comfortable climate conditions.

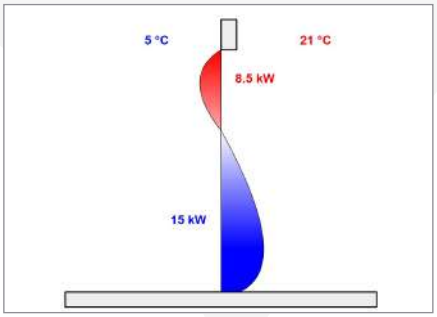

Figure 1. At each door entrance, 8.5 kW of hot air is being lost outside the building and 15kW of cold air is entering inside. This causes uncomfortable temperatures in the banking environment and results in overconsumption of heating energy.

- **Discomfort:** The cold air during winter or the heat during summer, disrupts and distracts staff from their focus and makes it an unpleasant environment for customers.
- **Over-consumption** of heating or cooling energy: the air inlets through the doors represent up to 30% of losses.
- **Noise levels:** Traditional air curtains are noisy and can hinder the atmosphere that is trying to be achieved within the environment.
- **Maintenance:** The use and maintenance of climate separation solutions must be easy to operate as retail branches do not generally have on-site technical support.
- **Design:** The modern design of the bank must be maintained to meet the vision of the banks retail building.

	Data retrieved in November 2018 from a bank in Auvergne Rhône-Alpes
Average outside temperature	10,6 C°
Required temperature by the bank	21 C°
Open hours per month	156 hours
Open door hours per month	31,2 hours, 20% of the time
Average ventilation	1200 m3/h
Loss through the open door	234 kWh

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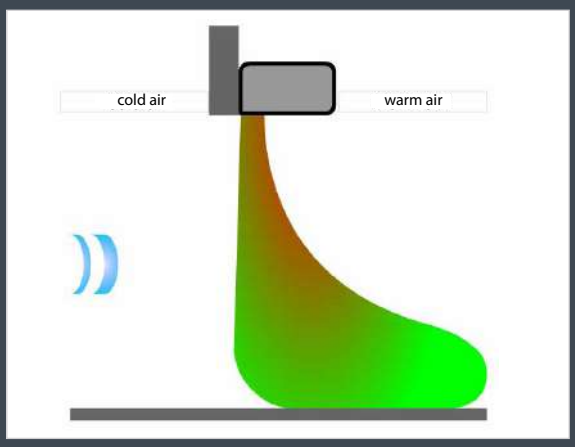
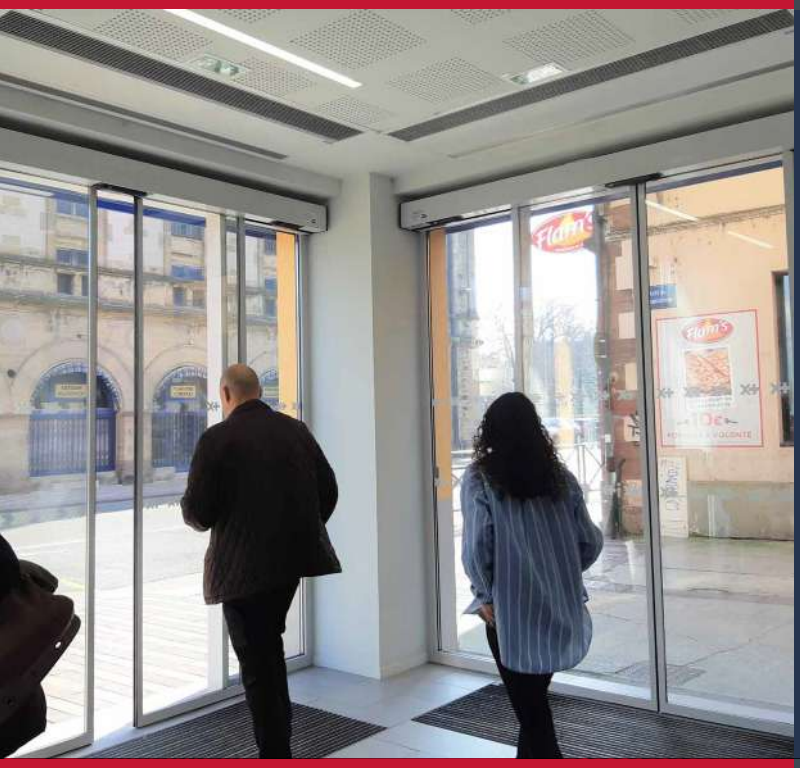
METHODOLOGY

Prior to the study, Biddle used simulators to quantify leakage phenomena and anticipate the performance of the climate separation. During the study in order to take accurate measurements, the air curtain climate separator was equipped with probes which allowed Biddle to record real-time data. This enabled the exact measurements and performance within the environment to be ascertained, which included recordings of the energy consumption, frequency of the door usage, footflow and the inside and outside temperatures.





THE SOLUTION: SENSAIR AIR CURTAIN CLIMATE SEPARATION SYSTEM

Automatic regulation of the optimal climate temperature, with no need for manual intervention.

SensAir's automatic control takes into account both the convection and the ventilation levels in order to adapt to the environment in a predictive and completely autonomous way. Therefore, energy consumption is reduced and climate comfort is guaranteed, without any intervention by staff.
The sophisticated speed control greatly reduces the sound levels. With the door closed and with a maximum of 29dB (A), the unit is barely noticeable. With the door open, only 43dB (A) are reached in the most extreme conditions.

INNOVATIVE TECHNOLOGIES

iSense infrared technology :

Biddle's patented i-sense infrared technology constantly scans the doorway, measuring the indoor and outdoor temperature, and the exact temperature at floor level. Allowing the air volume and heat output to be automatically, or manually, adjusted whenever the temperature rises or falls.

Air stream rectifier technology:

Rectifier technology reduces turbulence caused by the fans and ensures air is distributed downwards to floor level in a laminar stream. This prevents streaming in and out of the building.

CHIPS technology:

CHIPS-technology automatically adjusts the discharge temperature and the strength of the air stream to ensure a constant, comfortable climate is maintained at all times with no need for any user intervention.

B-TOUCH CONTROL BOX

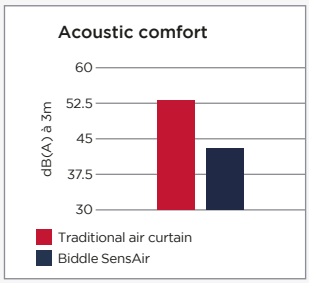
The colour touchscreen of the SensAir climate separator control unit has a sleek design and ergonomics and has an user-friendly interface, similar to a smartphone. At initialisation, a step-by-step tutorial guides you through the configuration of the device.
In use, its intuitive functions make it possible to modify the parameters as required.
A data export function can be used to visualise the performance of the device over the set period, in order to check comfort levels and to see the amount of energy savings achieved.

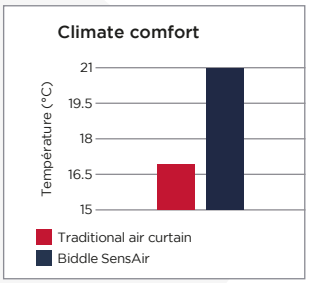
A discreet design

POWER USAGE WHEN DOOR IS OPEN

+20% -31%

By comparing the consumption of the banking branch with and without the SensAir air curtain climate separator installed, the recorded measurements highlight energy savings of up to 29%. A traditional air curtain would lead to an increase in energy consumption of more than 20%. On average, based on the open door time of the bank branch (20%), the energy savings, achieved in the whole lobby (30m²), represent 34%.





SENSAIR OPTIONS

The SensAir range is available as a surface mounted or recessed unit and can be installed using electric,water or hybrid of both. Available in a range of sizesup to 2.50m, it can be installed up to 4m high.

KEY BENEFITS

- Reduction of the overall energy consumption
- Up to 75% more efficient than manual air curtains
- Reduced noise levels
- Optimisation of the air conditioning and heating
- Improved comfort
- Adjustment of settings
- Achievement of CSR objectives: reduces the CO_2 footprint

ABOUT BIDDLE

Biddle are a world leader of air diffusion technologies, we have been delivering innovative climate solutions in the field of heating, ventilation, cooling and climate separation for the past 90 years. With manufacturing bases in the UK and the Netherlands and sales offices in France, Germany and Canada, we can deliver tailored solutions to customers across Europe and North America.

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