

RECP Best Practices Catalogue

Replacement of packaging room air conditioners with a central air conditioning system (AHU)

Developed within the framework of MED TEST II



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



The SwitchMed Programme is
funded by the European Union

Best Practice - Replacement of packaging room air conditioners with a central air conditioning system (AHU)

SECTOR:	Food & Beverage
SUBSECTOR:	Manufacture of other food products
PRODUCTS	light bars, gourmet sweets, tasting or gift assortments, professional range of pastries
CATEGORIES	Technology upgrade/Eco-innovation
APPLICABILITY	Utilities

COMPANY SIZE	146
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Description of the Problem (Base Scenario):

The packaging room is not isolated from other areas such as moulding, with disparate temperatures from one place to another.

The current arrangement of room air conditioners does not control humidity and temperature. These two parameters are key for the quality of the chocolate (viscosity having an impact on the composition and consistency of the product, stains on the surface because of the humidity or temperature gradient, ...).

The overall loss in this packaging unit is close to 8%. The loss due to inadequate air conditioning in this area was estimated at 0.5%.

Description of the Solution

Install an Air Handling Unit (AHU) to regulate the temperature and humidity according to the targeted directives. The AHU will be composed of:

- Cold water battery
- Electrical hot battery
- Composition of the polyester chambers.
- Humidity regulation by regulator for means of recovery.
- Electrical power distribution by TRIACs.
- A fabric innerduct type of network

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Economic Gain	Better manage the internal conditions and avoid production losses. Hypothesis: 80% of Finished Products go through this workshop We estimated the gains by reducing the losses to € 32,760 (A gain of 0.5% on 8% of losses was estimated at the point of packaging), or: (6,501 tons PF/year x 80% x 0.5% reduction in losses = 26 tons/year x € 1,260/ton (cost of chocolate recycling) = € 32,760
Environmental Gain	Reduction in production and material losses of 26 tons/year, which translates to 11% of solid waste.
Health and Safety Impact	Positive impact



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Investment & Financial Indicators	Estimated at about € 90,909 (excluding refrigeration unit), 2.7 years
Suppliers	All qualified installers for the handling of refrigeration installations
Other aspects	
Implementation and new indicator	To be implemented in the new factory planned for 2019



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