

New air handling system for Mizkan

Combined air handling units and air sock distribution system protects sauce production process

The Challenge:

Mizkan needed to pressurise and filter its sauce process to prevent any external contamination and minimise spoilage. The existing cramped process equipment presented access difficulties and the building structure imposed weight limitation on any solution.

The Solution:

Penmann designed a system which imposed a minimum load on the roof and could deliver low-velocity air, with a displacement effect, to the operator location which ensures maximum cooling.

Our displacement air solution included multiple air handling units located on the roof in positions that minimise the structural load and then deliver air into the operator location below the ceiling using textile socks.

Air displacement systems are energy efficient and offers significant advantages over conventional air mixing systems. Filtered fresh air is distributed across the area via textile socks, with the low velocity air falling to low level where it's needed most. Warm and contaminated air is then displaced to high level and extracted outside.

With centralised plant on the roof, filter changes are low cost, quick and easy, with no disruption to production.

We also fully integrated all the existing supplies and extracts into a single control panel with inverter control. The system could adjust up and down depending on the external temperature and at the same time maintain positive pressure and prevent ingress of contaminants.

The Benefits:

- ✓ **Effective delivery of air to where it is needed**
- ✓ **Positive pressure maintained to prevent ingress of contaminants**
- ✓ **Structural impact on the building minimised**
- ✓ **Hygienic sock delivery systems easy to take down and clean**
- ✓ **Air handling plant is external for easy maintenance and filter changes, with no disruption to production**



Testimonial

"The installation engineers worked well with our production staff to minimise disruption to production. The new socks look great and were designed to fit around existing obstructions to deliver air where it is needed and to be accessible for laundering. Communication throughout was very good and the project completed within budget. I could certainly recommend Penmann to others".

Graham Boyle, Project Manager