
DESIGN FOR OVERHEAD REFRIGERATOR UNIT

CONCEPT DESIGN AND EVALUATION FOR AIR FLOW



Client Background

A leading manufacturer of sheetmetal products like custom refrigeration units, food processing units, food display products and washing units.

Business Challenge & Requirements

To provide a overhead unit which they made the survey through end users of their equipments. The shop operators, supervisors and maintenance teams are the active participants of this session .The end of session they decided to make some enhancements on their equipments .

Srinsoft experts made a detail study through brain storming and provided the optimized solutions to the client. It has been executed through engineering standards and cad tools

Challenge:

Flow analysis and real-time air distribution covering area to be refrigerized.

Value engineering.

Material selection should be within the suggested list.

Handling the Huge cad data through PDM was pretty challenge to us

Solution:

Our experts made a detail study through brain storming and provided the optimized solutions to our clients. It has been executed through engineering standards and cad tools

Results:

Axial fans placed over the evaporator.

Deflector used to change the air flow to reach the pans

A well structured documents and manufacturing details has been produced

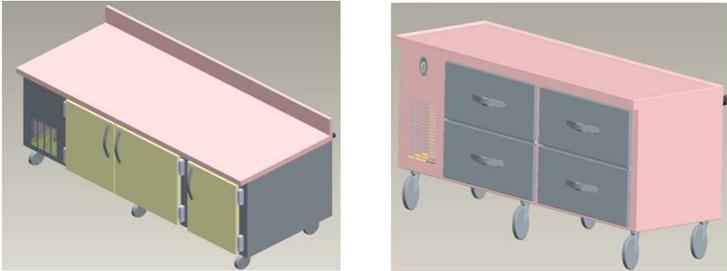
New designs had been implemented without disturbing the existing production line

SOLUTION PROVIDED

A detailed study has been made over the suggestions on survey reports. Through brain storming groups several concepts has been suggested to our client and a optimized concepts are approved then forwarded to respective actions

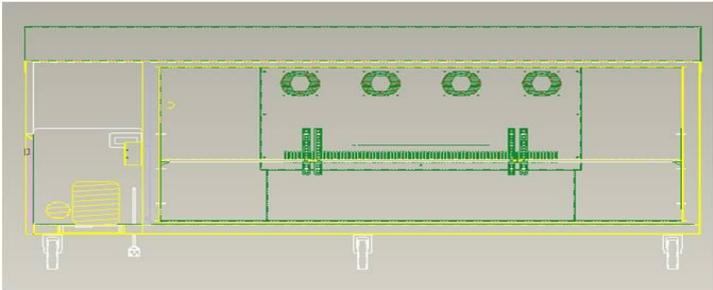
EXISTING DESIGN

Refrigeration units are fully covered within a door area to freeze flow of air in and around unit. Unit were placed on the left side of the unit on Right side we have our actual refrigerated area. Refrigerated area was accessed either by doors or it can be replaced with drawers as shown pictures.



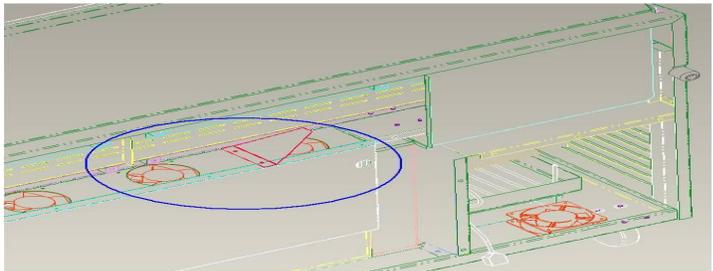
AXIAL FANS ON FRONT

Existing units Cooling systems are provided with Evaporator unit in which Fans are on front covering the area to be Refrigerized.



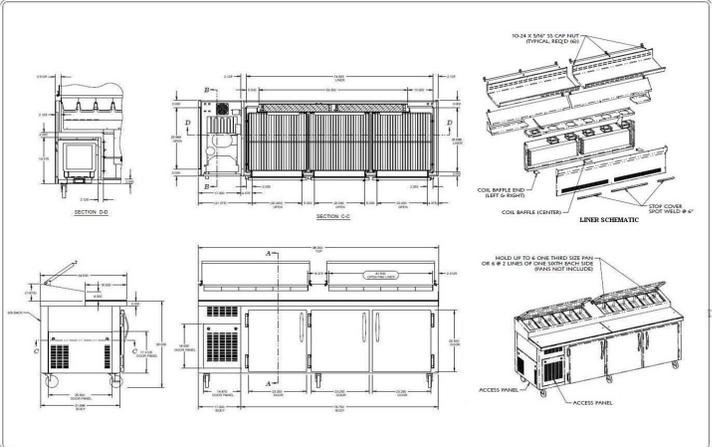
EXECUTION

To acheive a design of unit with Refrigerized serving unit on top including same standard construction on area accessed with door or drawers. The liner is designed in such a way that there is zero possibilities for leakage to get maximum efficiency



AXIAL FANS ON TOP

Axial fans were placed on top of evaporator in which the Refrigerized serving area might be fully covered of open. To perform open action air flow a deflector tab is used to change the air flow to reach the pans. Here instead placing Fans on front it is provided on top where it can cover both area which are to be Refrigerized.



MANUFACTURING DATA

Clear and detailed data given for production and also for assembly section which will enhance perfect understanding.