Executive Summary

Overview

Conveyor air shower room for Beiersdorf Thailand

Customer Demand

The production line system consists of Conveyor#1-7 and have 2 High Speed Roller Doors: HSS Roller Doors. The system will transport the chemical containers. Or products assembled in the production line in the cold air room to be stored in the warehouse by the wind will be blown to eliminate dust or dirt that may be attached to the product to fall onto the floor and enter the treatment system. The blower will only work when both doors are closed and will set the blower for a set period of time according to the conditions, then the second door will open and transport the goods to the final conveyor. to transport the workpiece to the next warehouse.

Work Order

1. The product will be transported to the conveyor#1 by a forklift truck.
2. Then HSS Door#1 will open by conveyor#1when the system is in standby mode.
3. The product will be moved through the conveyor to the air shower room through the conveyor belt number 2-5 in order by specifying the product to stop at the conveyor#5 and transport continue until complete In the meantime HSS Door#1 still open
4. In the case of incomplete products being transported whatever the reason HSS door#1 will closed door by automatic after the time limit is exceeded within 10 minutes.
5. Air shower start by the whole conveyor including all doors will be ordered suspend work Until the set time and the blowing system will stop working.

6. Air shower will order HSS Door#2 to open when the blower completes the specified time.
7. The conveyor will transport the product to the conveyor No. 6-7 in order until all the goods from the blower chamber are complete (during the conveying HSS Door#2 will open and wait until all the product are delivered.)
8. When finished conveying the product, HSS Door #2 will be closed. One cycle of processing is completed.
9. A new cycle will begin as in the order 1-8 (only do 1 cycle).

Work Process

1. Study and understand how air shower room work
2. Schedule work using flowchart
3. Study the spec sheet of equipment and systems within the conveyor belt.
4. Design the positioning of sensors and devices inside the conveyor belt
5. Determine the equipment that will be used to control the operation of the system, such as the electrical system, the motor control unit, etc.
6. Design the connection layout of various electrical devices that are defined through the Autocad program.
7. Bring electrical equipment control device to arrange and design the control cabinet.
8. Simulate the operation of the Air shower line through the Factory IO program.
9. Design a PLC program (Ladder)
10. Check the operation of the Air shower line in the Factory IO program.