



*Steam Heaters for Heat
Sterilization*



Quaker Oats, St. Joseph, Mo.

- ◆ Area to be sterilized:
Approx. 3.5 million
cu.ft.
- ◆ Initial steam load:
50,000 lbs. Per hr.



Production Area

- ◆ Central production in 10 story tower
- ◆ Construction: Brick and concrete
- ◆ Single pane windows removed, replace with glass block to conserve energy.



Upgrade existing steam heaters

- ◆ Existing free standing air movers were upgraded using new high capacity steam coils
- ◆ Location of existing air movers were evaluated for overall performance



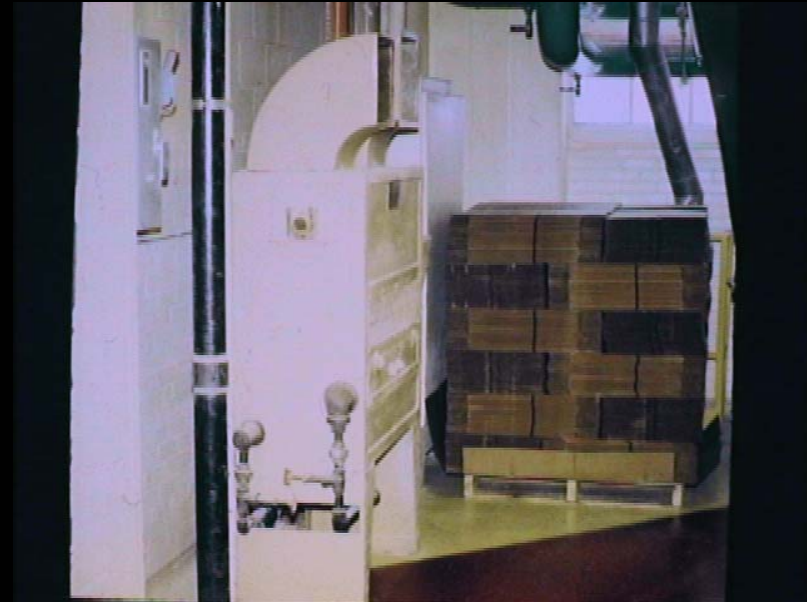
Advantage/Disadvantage of floor mounted equipment

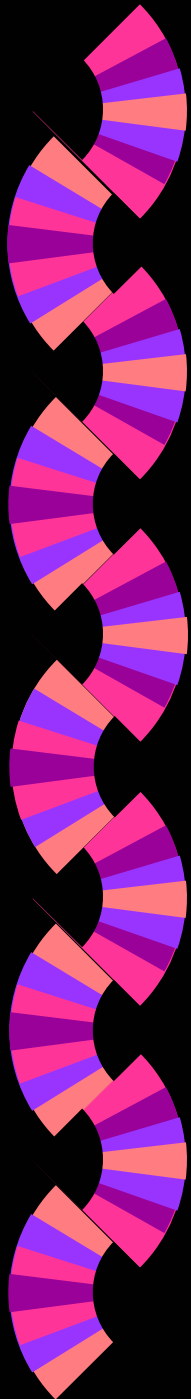
◆ ADVANTAGES

- ◆ High air volume
- ◆ High heat output
- ◆ Low cost to upgrade

◆ DISADVANTAGES

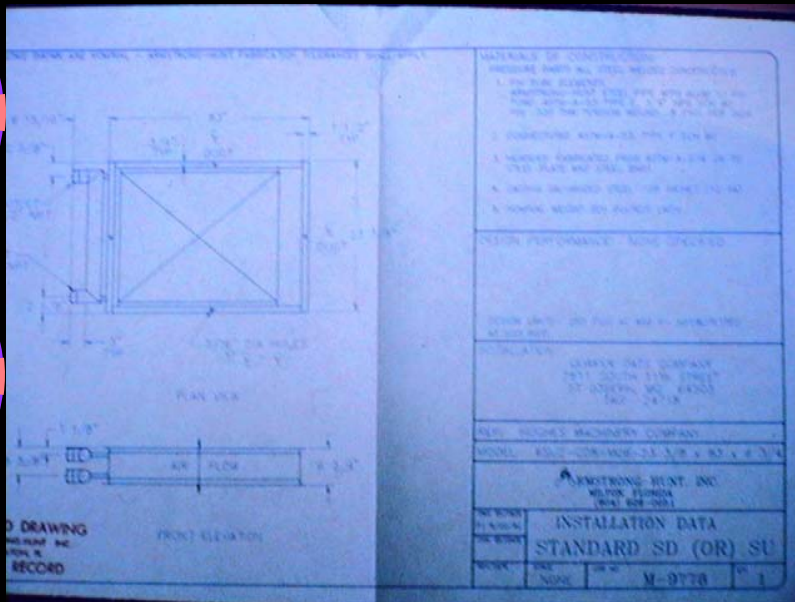
- ◆ Takes up floor space
- ◆ Easily block by material





Heater manufacturer support

- ◆ Steam coil manufacture provide detail drawings for future reference
- ◆ Performance data included in drawing file



Unit heaters compliment floor heaters

- ◆ Ceiling hung unit heaters require no floor space
- ◆ Location critical to performance

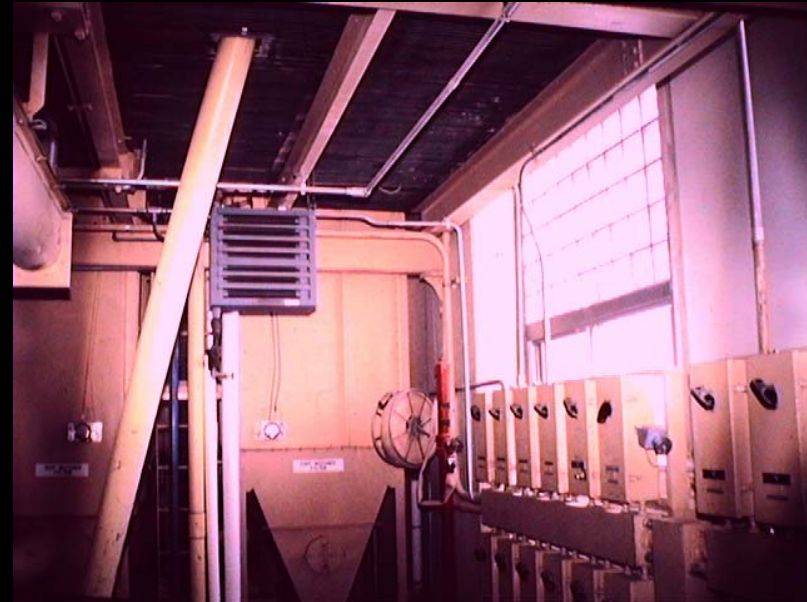






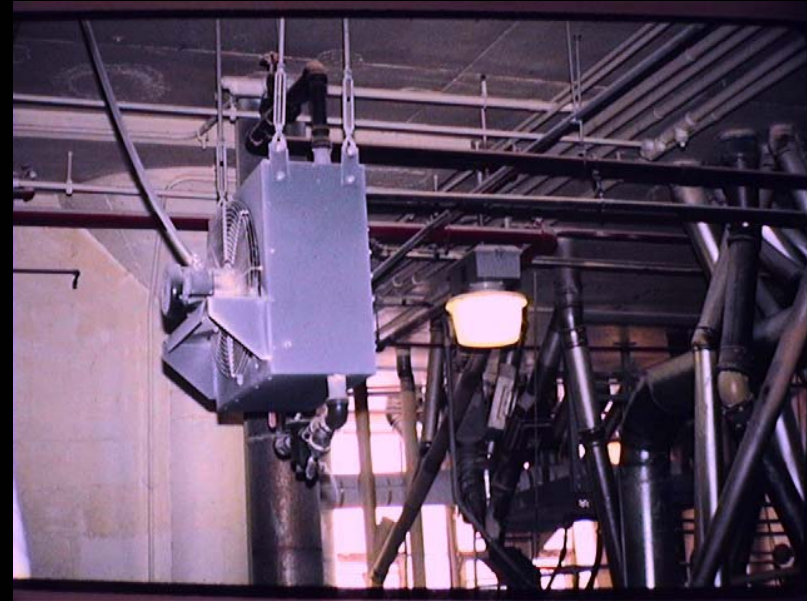
Installation considerations:

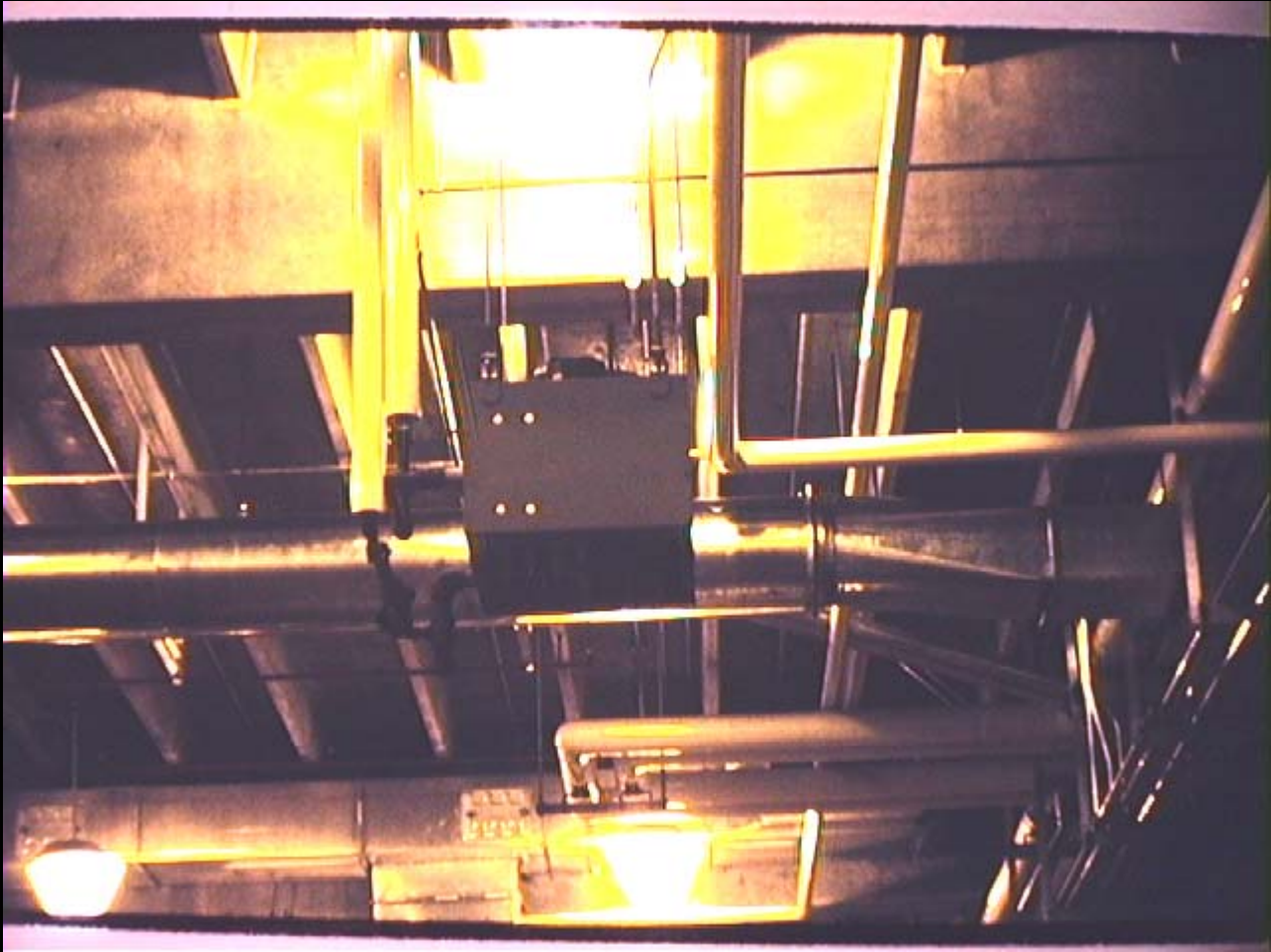
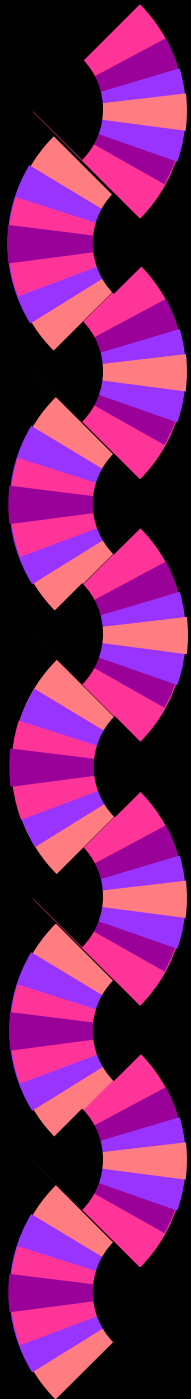
- ◆ General Rule: Heat the exterior walls
- ◆ Provide a heater with enough “throw” to cover the required area



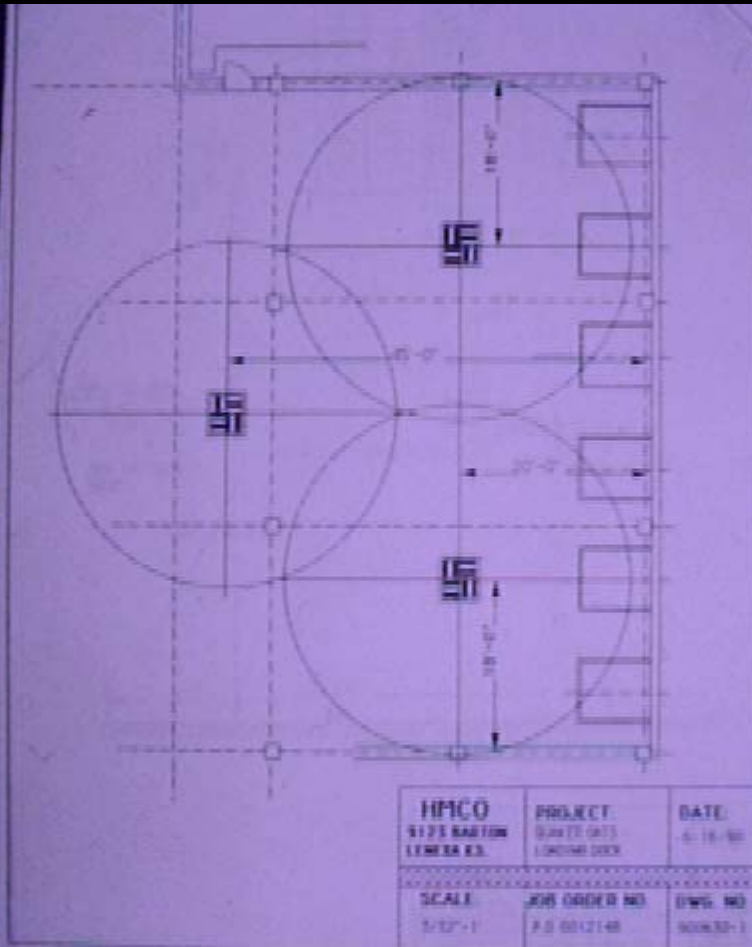
Installation considerations cont.

- ◆ Install the heaters with minimal obstruction.
- ◆ Free access to heater required for later service for the trap and cleaning of the coils



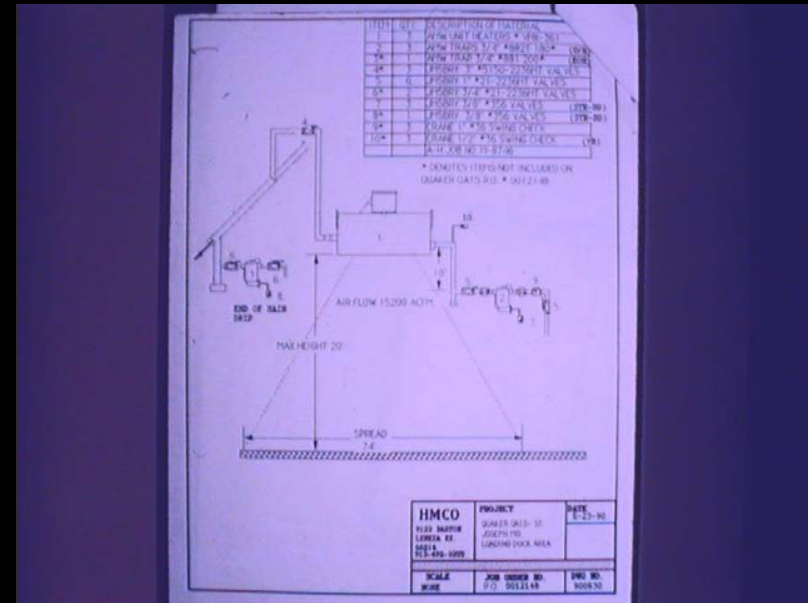


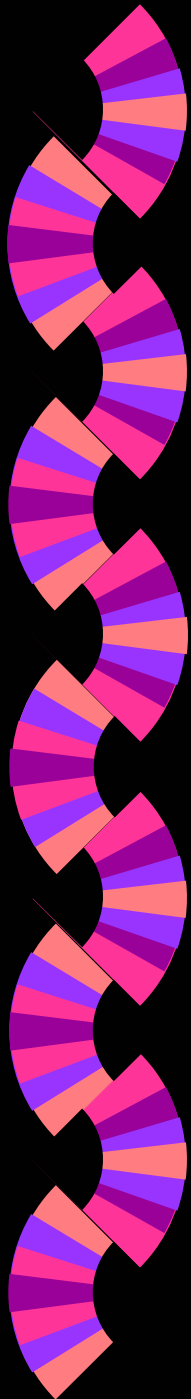
Good design includes overall floor plan

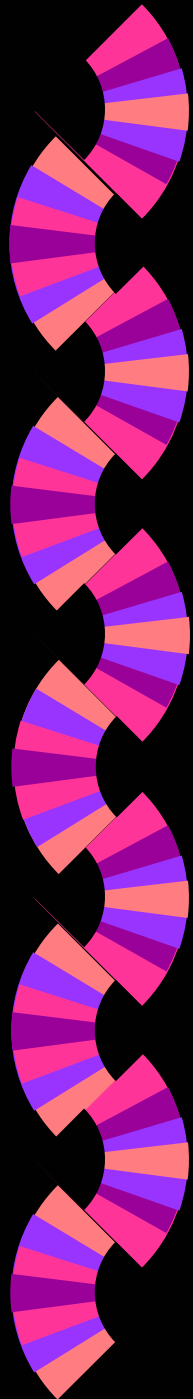
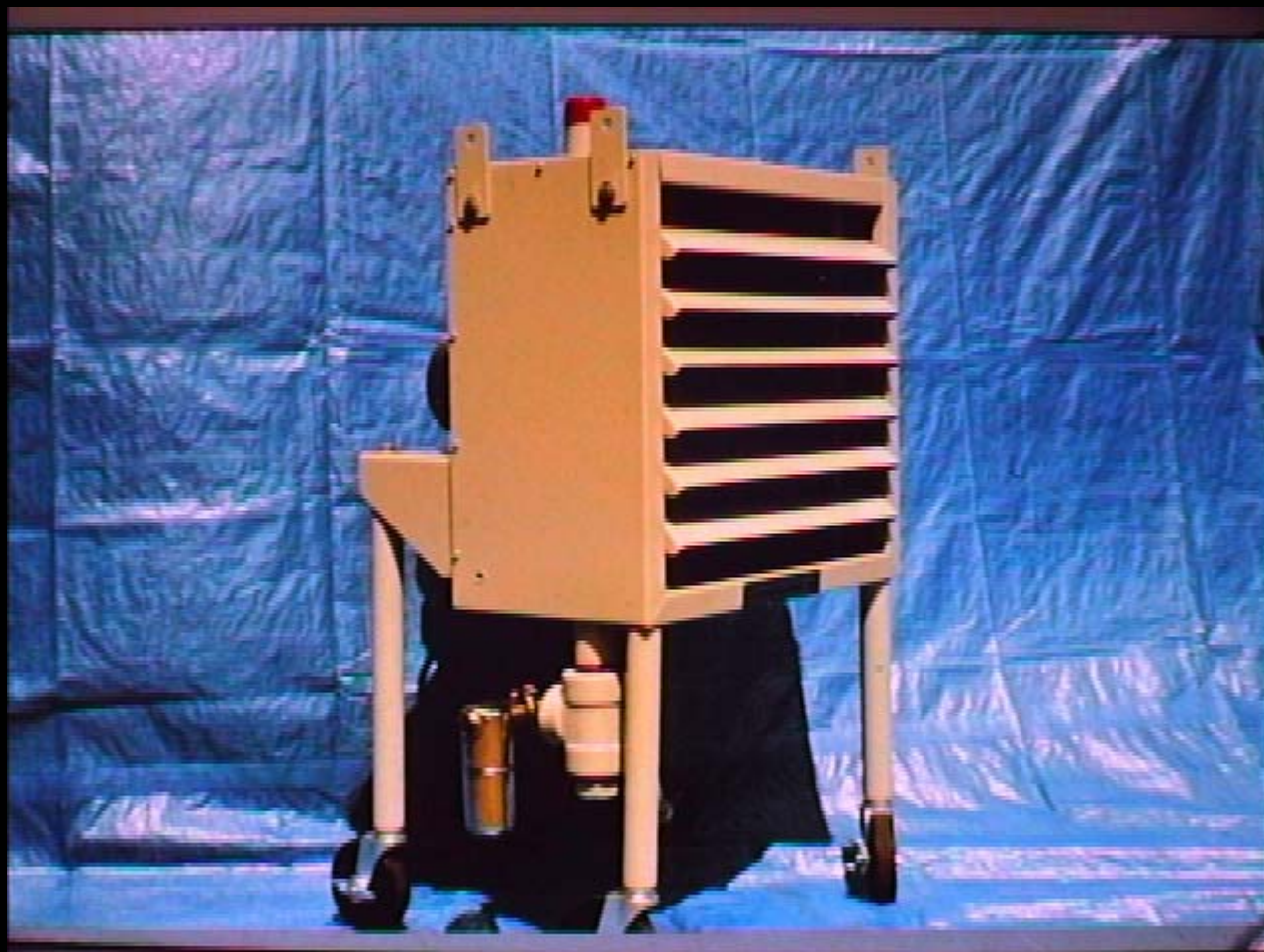


Installation consideration cont.

- ◆ Mounting height important to vertical air flow unit heaters
- ◆ Consideration must be given to control function







HMC HUGHES MACHINERY CO.

