



Electricity & Energy 2021



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Successful HVAC Design Guidelines for Commercial / Industrial / Process Applications

שם התקציר: קווים מנחים לתכנון מערכות מיזוג אוויר

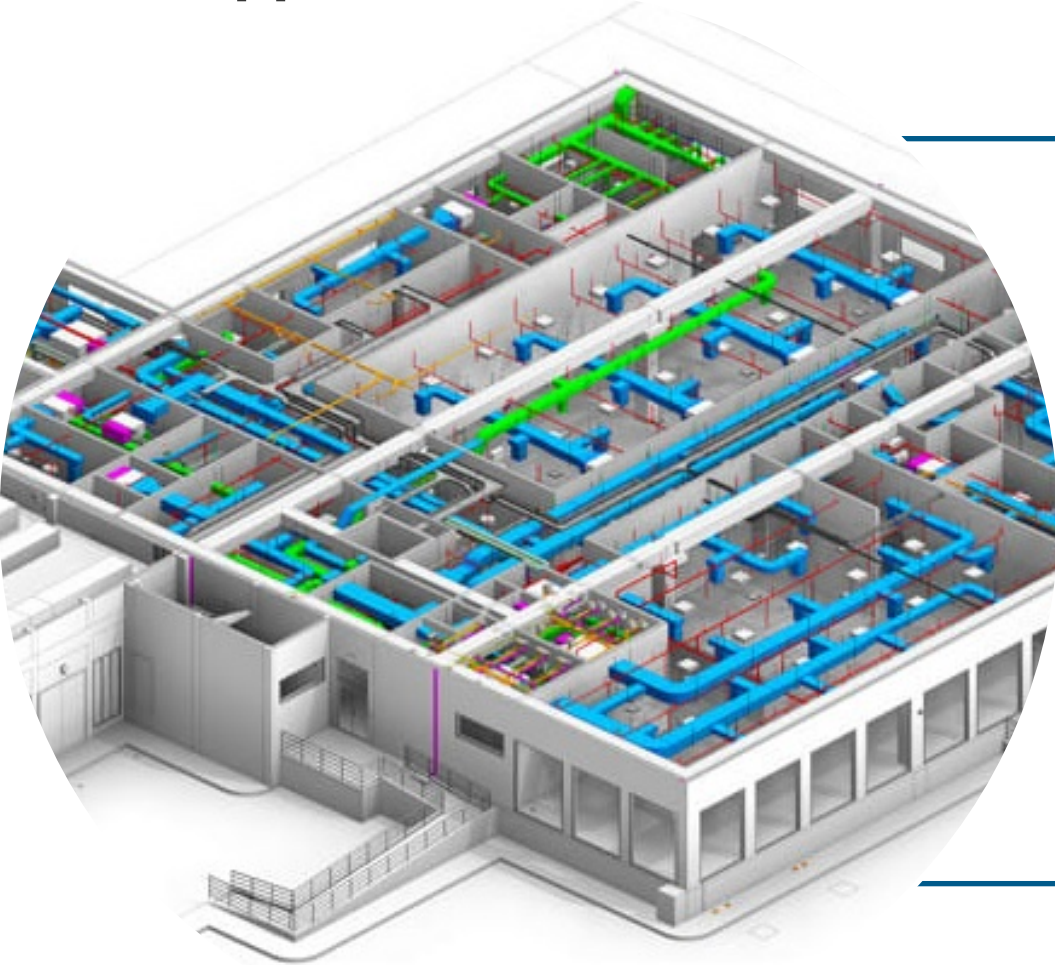
מסחריות / תעשייתיות / תהליכיות

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HVAC Applications



Commercial HVAC



Industrial HVAC



Process HVAC

Perfect design is based on proper selection of suitable HVAC design group based on customer's requirements and specifications.

Commercial HVAC



Offices



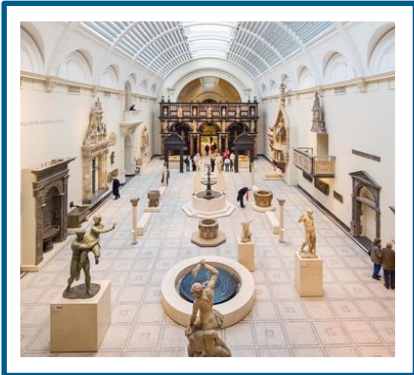
Underground Ventilation



Shopping Malls & Cinema



Pressurized Sports Hall



General Purpose Public Areas

Commercial HVAC Design Guidelines

Ashrae Standards & Guidelines

Architect and Professional Consultants' Team

Adapting the correct HVAC system

Indoor & Outdoor conditions requirements

Safety Standards



Hospital & Labs



Chemical Labs



Hospitals General Areas



Hospital Dedicated Areas



Electronic Labs



Biological Labs

Hospital & Labs

Ashrae Standards & Guidelines

Local Standards (i.e. AC-01)

Architect and Professional Consultants' Team

Adapting the correct HVAC system

Indoor & Outdoor conditions requirements

Noise & Vibration Control

Seismic Restrain

Protected Areas Design

Safety Standards



Industrial HVAC



Food Industry
Plants



Chemical
Industry Plants



Heavy Industry
Plants



Textile
Plants



Paper Industry
Plants

Industrial HVAC Design Guidelines

Ashrae Standards & Guidelines

Special Design Team & URS

Focus on Material Specifications

Noise & Vibration Control

Seismic Restrain

Proper equipment selection for process flexibility & energy saving

HVAC System Integration



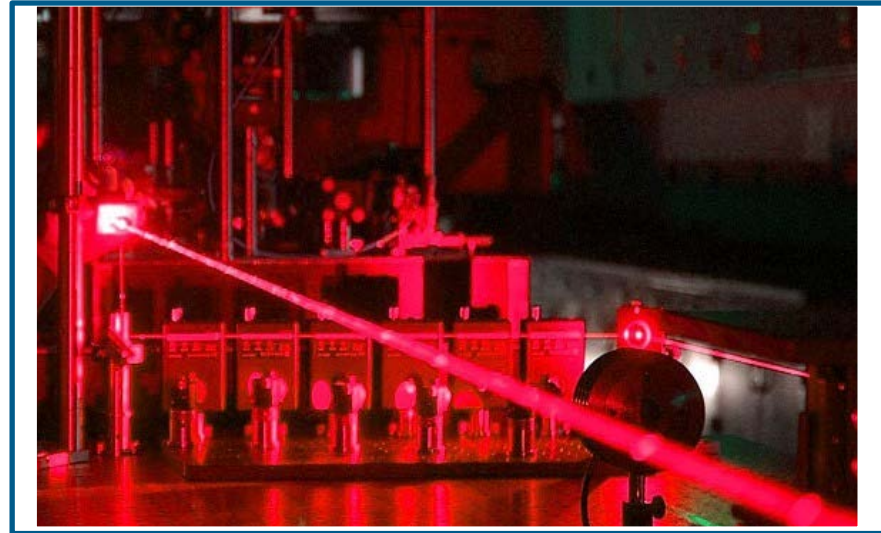
Process HVAC



Clean Rooms



Stability Rooms



Process Ovens



Indoor Growing



Wind Tunnels

Process HVAC Design Guidelines

Special Design Team

URS = Functional Design / Process Specifications / Stability

Architect and Professional Consultants' Team

High Level Management, Process Supervisor and Contractor

Noise & Vibration Limits

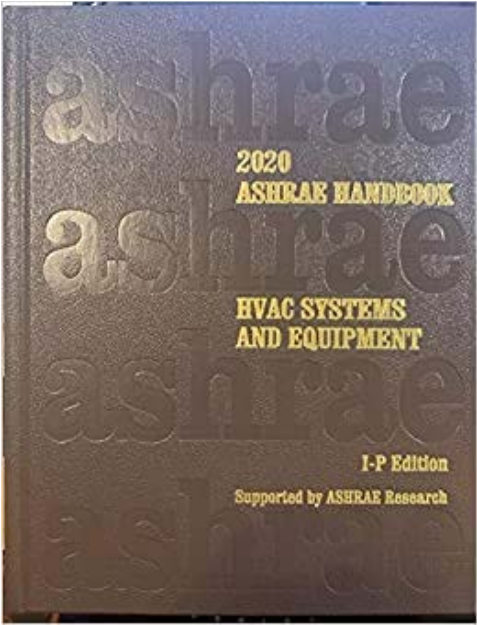
Seismic Restrain

External climate conditions effect on continuous process

HVAC System Testing, Adjustment & Balancing (TAB)



HVAC Systems



HVAC APPLICATIONS

VS

ENERGY CONSUMPTION

Process HVAC - Specific Systems

High Energy Consumption per sq.m

Industrial HVAC – Partial systems

Medium Energy Consumption per sq.m

Commercial HVAC - All presented systems

Low Energy Consumption per sq.m

HVAC System Usages

Commercial HVAC

All HVAC System types may be used depending on cost, service, maintenance limits.

Industrial HVAC

All HVAC System types adapted to industrial process and requirements

Process HVAC

Specific systems that will guaranty stability and process requirement

Design Highlights

1. Filtration Area (Dust Holding Capacity).
2. Filters location.
3. Face Air velocity on Filters at different types of stages.
4. Air Face Velocity on Coils & Drop Separator usage.
5. Extra Specifications.
6. Cooling and Heating Coils Design.
7. Water Control Valve Design.
8. DX Coil is NOT Water Coil.
9. Drainages – quantity and syphon.
10. UVC Light usage (location goal, limited with Blygold).
11. Environment conditions for indoor and outdoor equipment.
12. VRF systems – evaporating temp limits (4°C - 8.5°C).
13. Package DX – evaporating temp limits (~ -1°C).
14. Standard VRF/DX systems – humidity control not recommended.





Commercial HVAC



Industrial HVAC



Process HVAC

