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**Scorpion Rooftop Package Units
Are Ideal For:**

- Churches**
- Schools**
- Libraries**
- Hotels/Motels**
- Theaters**
- Museums**
- Hospitals**
- Swimming pools and spas**
- Laboratories**
- Warehouses**
- Public and office buildings**
- Sports centers**
- Industrial facilities**
- Electronic Facilities**
- Supermarkets**
- Pharmaceuticals**

- Scorpion rooftop package units are designed to:
- Maintain neutral air temperature 45%RH - 800 ppm CO₂
 - Reduce HVAC energy costs
 - Eliminates reheat
 - Maximize Occupant Comfort Level
 - Moisture Removal @ 1000cfm per 1000cfm @ 95fdb / 80fwb
 - Standard Units from 1000 to 8000cfm



Scorpion package dehumidification units come complete with DX* or chilled water pre-cooling sections

*(water or air cooled)



Scorpion Package Rooftop Unit



Applied Dehumidification, Inc., specializes in providing dehumidification solutions. A need was identified for a rooftop package unit and so the Scorpion was born. Applied Dehumidification's team of experts can help correct a building's humidity problems, improve occupant comfort and help avoid occupant health issues, all while reducing overall costs.

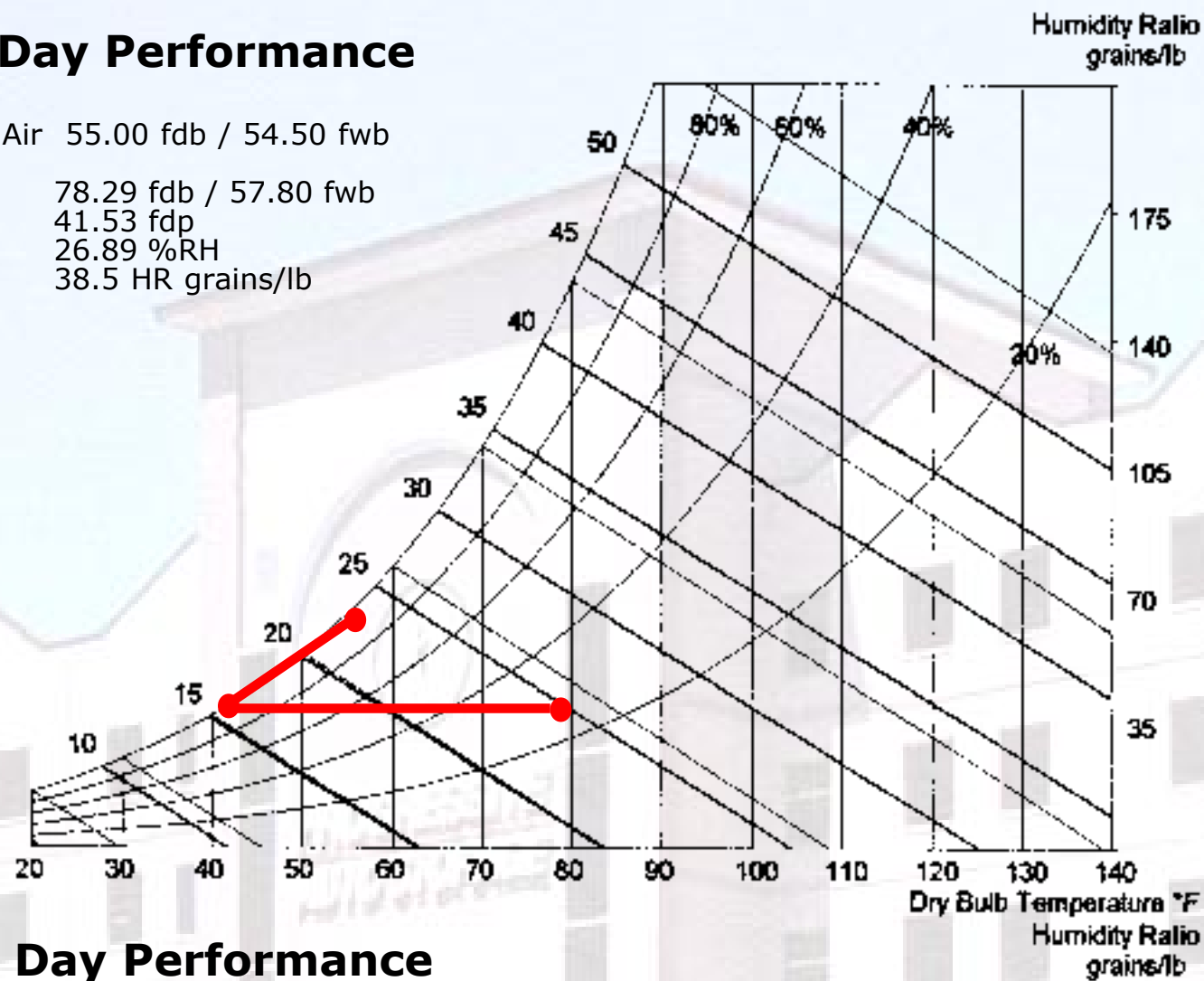


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Solutions for Humidity Problems

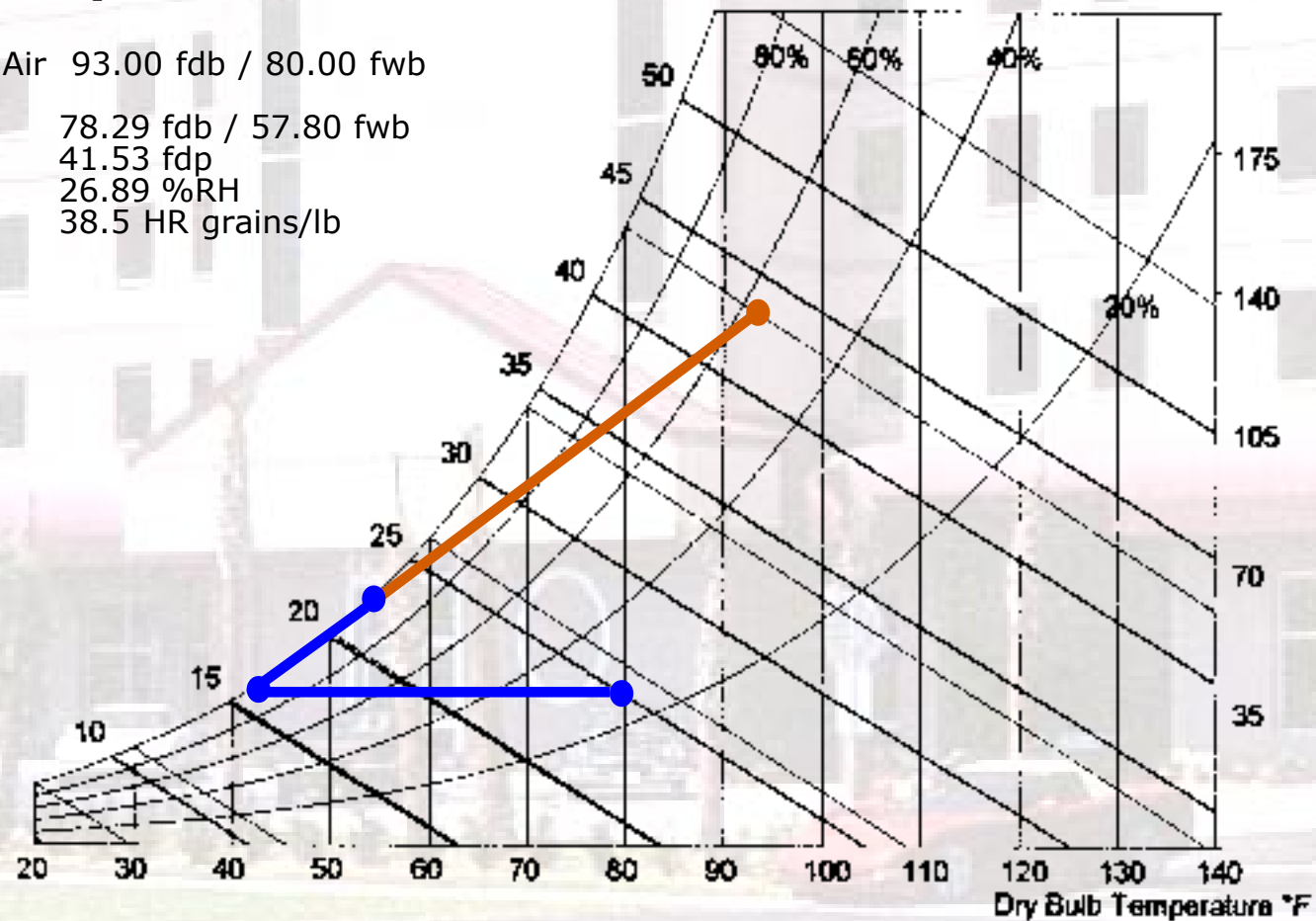
Mild Day Performance

Outside Air 55.00 fdb / 54.50 fwb
 Unit Lat 78.29 fdb / 57.80 fwb
 41.53 fdp
 26.89 %RH
 38.5 HR grains/lb

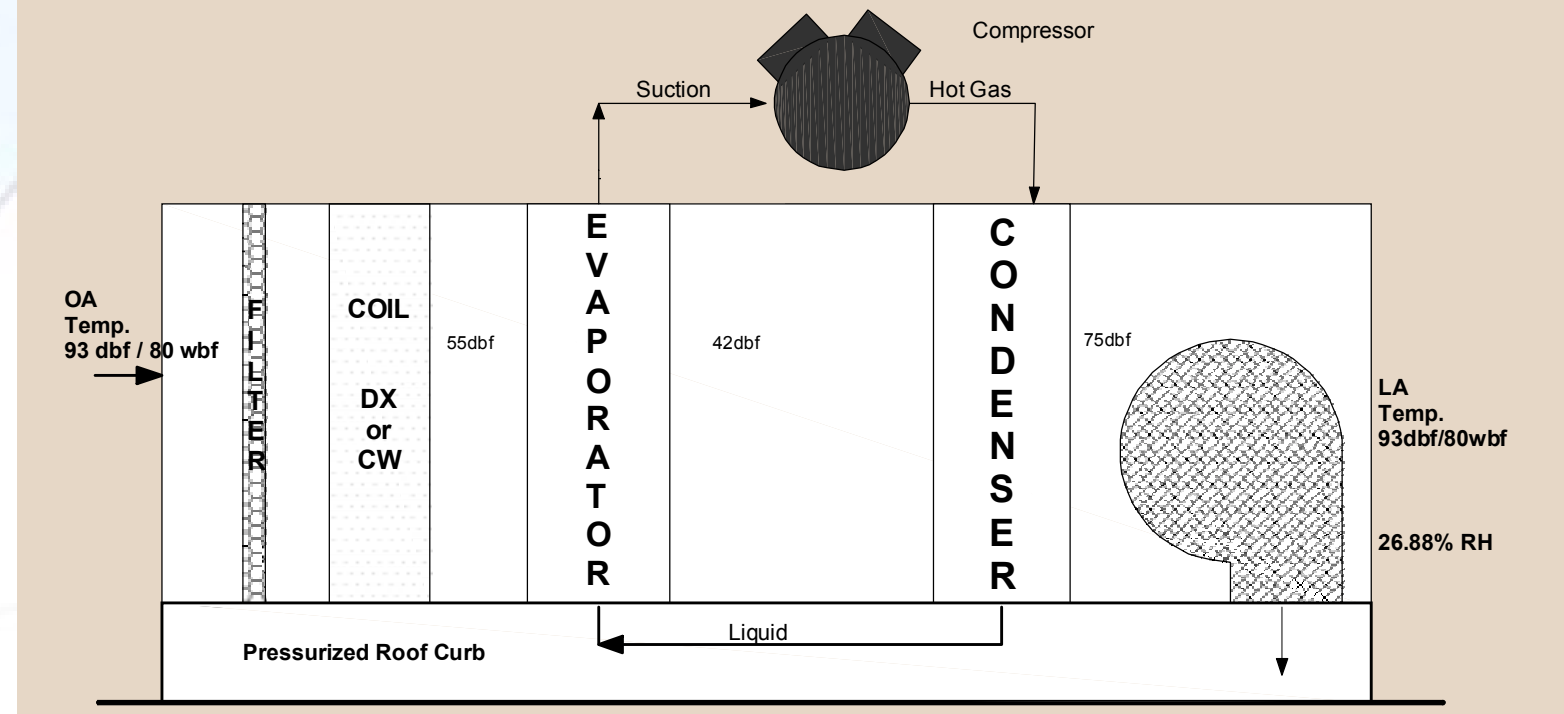


Peak Day Performance

Outside Air 93.00 fdb / 80.00 fwb
 Unit Lat 78.29 fdb / 57.80 fwb
 41.53 fdp
 26.89 %RH
 38.5 HR grains/lb



Scorpion Schematic



The Scorpion Design Philosophy

- Provide all the space moisture removal requirements regardless of the space temperature or outdoor conditions
- Provide the outside air ventilation latent and sensible cooling and the space latent cooling in one unit
- Meet **ASHRAE Standard 62-1989** outside air ventilation rates
- Separate the space latent cooling process from the sensible cooling process to eliminate humidity control problems

- Reduce HVAC system cooling requirements while improving building ventilation and humidity levels
- Reduce HVAC system energy costs by raising space temperature and lowering space humidity to space conditions of 75F/45%RH - the center of the **ASHRAE** Comfort Zone
- Maintain humidity control at part load conditions and maintain space conditions regardless of load
- Localize all humidity removal to the outside air units
- Run dry coils on air handling units at high face velocities to reduce air handler size, cost and energy consumption
- Run higher discharge air temperatures and higher air circulation rates on return air units with 70% RH in supply air duct in accordance with **ASHRAE Standard 62-1989**



- Run higher chilled water temperatures (48F) to reduce chiller energy consumption
- Reduce chilled water flow rates (as low as 1.7 gpm/ton) to reduce pumping horsepower, pipe size and piping costs
- Raise evaporator temperatures on return air D/X units and increase supply air cfm/ton, reducing unit size, cost and compressor energy consumption

