



Nimbus

ADIABATIC COOLERS

Hybrid adiabatic cooling systems that reduce water consumption up to 75% and eliminate the primary breeding ground for Legionnaires' Disease. Made in the USA with materials to ensure reliability and advanced controls for maximum energy savings.

Peak +

Adiabatic pre-coolers designed to extend equipment life and lower energy usage by up to 30%. Complete with water softening system and cloud-based control network for real-time energy savings and seasonal optimization.

AIR CURTAINS/DOORS

Berner

AMCA Certified, heated and unheated air curtains/doors. Architectural, commercial, and industrial styles for door heights up to 50' high.

AIR FLOW MEASUREMENT

TrueFIT

Accurate and repeatable measurements for Outside, Supply, and Return airflow, unaffected by ambient weather, airborne pollutants, or bends and restriction in mechanical air delivery systems. Higher accuracy, better reliability, and more affordable than traditional air flow measurement systems.

AIR TERMINAL DEVICES

Multi-Aqua

Ductless hydronic fan coils/cassettes/high wall.

BOILERS/BURNERS

Thermal Solutions

Extensive line of high efficiency condensing and non-condensing gas-fired, copper tube or stainless steel flexible water tube boilers to fit almost any commercial application 500MBh – 6,000 MBh.

Sellers

Complete line of firetube boilers, D/A & feedwater systems, clean steam generators.

BOILER FLUE/STACKS

DuraVent
Security
Chimneys

Flues for every application, including grease duct.

BOOSTER SYSTEMS

Armstrong

Quality engineered Design Envelope packaged booster systems.

CHILLERS

Multi-Aqua
Thermal Gas
Systems

Small heat pump chillers. Refrigerant monitors, alarms and safety equipment.

Stulz

COMPUTER ROOM AIR CONDITIONING

Designed specifically for the cooling of computer and electrical rooms. Floor-mounted, ceiling mounted, & in-row cooling units with chilled water, DX, redundancy & humidification.

Armstrong

COMMERCIAL PUMPS

Design envelope solutions, including vertical inline pumps with factory-integrated VFDs with sensorless control. Large range of commercial pumps including vertical inline, base mounted/end suction, dual arm, and circulator pumps for many different applications.

Coilmaster

COILS

Standard and custom DX, hydronic, & steam coils for HVAC, refrigeration, and industrial applications. Best-in-class 15 business day standard lead times, with option to expedite.

Armstrong
JCI FX
JCI Verasys

CONTROLS

Hartman loop central plant optimizer.
(Facility Explorer) Tridium Niagara N4 open BACnet compliant systems.
Light commercial open BACnet building automation systems.

CanFab
Thybar

CUSTOM HVAC ACCESSORIES & MODIFICATIONS

Modifications and accessories for unitary packaged and split systems

Reznor

DEDICATED OSA UNITS

High efficiency gas heat outdoor air units.

PoolPak

DEHUMIDIFICATION UNITS & POOL/NATATORIUM UNITS

Specifically designed units for the crucial need of accurate temperature and humidity control for indoor pools using heat reclaim.

Wheels

ENERGY RECOVERY SYSTEMS

CanFab, Thybar, MicroMetl
3 ANG, 4 ANG, plastic polymer technology offering total sensible, equal sensible and latent, and sensible only recovery. Available for new or retrofit projects for 840 – 78,000 cfm.

Genesis Air

HIGH EFFICIENCY IAQ SYSTEMS

Photo-Catalytic Oxidation systems with near 0 PD. Ideal for the control of VOCs and biological contaminates in hospitals, schools, casinos, etc.

Carel

HUMIDIFIERS

Isothermal and adiabatic humidification solutions for every application: electric, gas-fired, steam generators and distribution.

Hays

HYDRONIC SPECIALTIES

Flow control valves for hydronic heating, circulation isolating flanges, and configured hydronic hookups.

Armstrong

Leader in HVAC expansion tanks, thermal expansion tanks, and vortex air separators.

Canariis

PACKAGED CHILLER & BOILER PLANTS

Custom-built modular central plants and packaged pumping systems for commercial and mission critical applications.

Armstrong

Pre-engineered packaged plants and pumping skids.

Armstrong

HEAT EXCHANGERS

Shell & tube, plate and frame, and brazed plate heat exchangers for commercial and industrial applications covering a wide range of different fluids and operating pressures.

Gaylord

POLLUTION CONTROL UNITS & GREASE DUCT SUMPS

Commercial kitchen ventilation systems including pollution control units with odor, grease and smoke removal. Grease duct sumps.

CanFab

ROOF CURBS

One of the premier designer and manufacturers of commercial HVAC accessories.

Thybar
MicroMetl

High quality roof curbs made by a leader in the sheet metal industry.
High quality galvanized steel roof curbs.

Hitachi

VRF & DUCTLESS SYSTEM

Global leader in VRF & ductless heating and cooling systems. Air and water cooled VRF heat recovery, heat pump, multi-zone, and mini-split systems. Ultra-efficient design, inverter technology, individual zoning control, and quiet operation throughout a wide range of operating conditions.

Century

Multi/single zone ductless mini-split system cooling & heat pump units up to 3 tons.

WATER SOURCE & AIR SOURCE PRODUCTS

Cold Point
Adirondack Aire

Mainstream replacement manufacturer of water source products: packaged heat pumps, vertical stack chassis, console products; and air source products: vertical and horizontal PTAC units, and packaged A/C and heat pumps.

Useful Formulas

$BTUH_{total} = BTUH_{sensible} + BTUH_{latent}$
 $BTUH_{sensible} = 1.085 \cdot SCFM \cdot (EAT_{db} - LAT_{db})$
 $BTUH_{latent} = CFM_i \cdot 0.68 \cdot (W_{entering} - W_{leaving})$
 $BTUH_{total} = 500 \cdot GPM \cdot (LWT - EWT)$
 $BTUH_{total} = 4.5 \cdot SCFM \cdot (h_{entering} - h_{leaving})$
 $Heat_{total} = \text{enthalpy (BTU per Pound of Dry Air)}$
 $Wet\ Bulb\ Depression = EAT_{db} - EAT_{wb}$
 $Evaporative\ Effectiveness = (Wet\ Bulb\ Depression) \cdot (Media\ Efficiency)$

Fan Laws

$CFM_2 = CFM_1 \cdot (RPM_2 / RPM_1)$
 $P_2 = P_1 \cdot (RPM_2 / RPM_1)^2$
 $P_2 = P_1 \cdot (D_2 / D_1)$
 $HP_2 = HP_1 \cdot (RPM_2 / RPM_1)^3$
 $HP_2 = HP_1 \cdot (D_2 / D_1)$

BAROMETRIC PRESSURE 27.61 in. HG at 2,100 ft. elevation

Legend for Formulas

$BTUH_{total}$ = total heat
 $BTUH_{sensible}$ = sensible heat
 $BTUH_{latent}$ = latent heat
SCFM = supply air CFM
 CFM_i = total CFM
W = grains of water per lb. of dry air
P = pressure
D = density
HP = horsepower
h = enthalpy

Standard Conversions

1 BTUH = 0.293 Watts
1 kWh = 3413 BTUH
1 kW = 1.34 HP
1 HP-hour = 2545 BTUH
1" H₂O column = 0.03613 psi
1 cubic foot = 7.481 Gallons
1 cubic foot = 1728 cubic inches
1 CFM = 0.472 Liters/sec
1 Gallon = 8.33 Lbs.
1 Gallon = 2.31 cubic inches
1 Pound = 7000 Grains
1 psi = 2.307 ft. of H₂O

