

# Columbus Line Card

PRODUCTS & SYSTEMS SOLUTIONS



## Affiliated Products

### Alliance

Less than 20 ton self contained AC  
[www.allianceairproducts.com](http://www.allianceairproducts.com)

### Annexair

Custom Packaged DX Rooftops  
[www.annexair.com](http://www.annexair.com)

### ArctiChill

Modular Chillers / Magnetic Bearing Chillers  
[www.arcticchillergroup.com](http://www.arcticchillergroup.com)

### Bulldog

Heat Pumps with Energy Recovery  
[www.bulldogheatpump.com](http://www.bulldogheatpump.com)

### Calmac

Thermal Battery Storage Systems  
[www.calmac.com](http://www.calmac.com)

### Carel

Steam and Adiabtic Humidification  
[www.carel.com](http://www.carel.com)

### CityScapes

Envisor Architectural Screening Systems  
[www.cityscapesinc.com](http://www.cityscapesinc.com)

### ClimateCraft

Custom Air Handlers  
[www.climatecraft.com](http://www.climatecraft.com)

### EBM Pabst fan arrays

Fan Array Retrofits  
[www.ebmpapst.us/en](http://www.ebmpapst.us/en)

### enVerid

HEPA Air Purifier  
[www.enverid.com](http://www.enverid.com)

**YOUR SINGLE SOURCE SOLUTIONS PROVIDER**

### Trane Columbus

2300 CityGate Drive  
Suite 100  
Columbus, OH 43219  
[Trane.com/Columbus](http://Trane.com/Columbus)

### Contact Us

**614-473-3500**

### Office Hours

Monday - Friday  
8:00 AM - 5:00 PM

## Affiliated Products (Continued)

### Evapco

Cooling Towers, Closed Circuit Coolers, Adiabatic Coolers, Dry Coolers, and Water Treatment Systems

[www.evapco.com](http://www.evapco.com)

### Genesis Air

Photo Catalytic Oxidation (PCO) IAQ Solutions

[www.genesisair.com](http://www.genesisair.com)

### KCC

DX DOAS Air Handlers

[www.trane.com](http://www.trane.com)

### MicroMetl / KCC/ CDI

Adaptor Curbs, ERVs, Custom Sheetmetal and Accessories

[www.micrometl.com](http://www.micrometl.com)

### MJC Air Rotation

Air Rotation Units, WC Modular Self Contained Units, Specialty Coatings

[www.mjcinc.com/products](http://www.mjcinc.com/products)

### Napps

Compact Scroll Chillers

[www.nappstech.com](http://www.nappstech.com)

### RenewAire

Energy Recovery Ventilation

[www.renewaire.com](http://www.renewaire.com)

### Synexis

DHP Virus & Bacteria IAQ Solutions

[www.synexis.com](http://www.synexis.com)

### Systecon

Packaged Pumping Systems / Chiller Plants

[www.systecon.com](http://www.systecon.com)

### Thybar

Custom Curbs, AHU Modifications & Spring Isolation

[www.thybar.com](http://www.thybar.com)

## Formulas

$$\text{Sensible Load (Btu/hr)} = 1.08 \times \text{cfm} \times \Delta T(\text{db})$$

(1.08 = Density x Specific Heat x 60 min/hr)

$$\text{Latent Load (Btu/hr)} = 0.68 \times \text{cfm} \times \Delta \text{ gr/lb(da)}$$

(0.68 = Density x Latent Heat of Vaporization  
x 60 (min/hr) / 7000 gr/lbw)

### Total Refrigeration Load

$$\text{(Tons)} = \frac{4.5 \times \text{cfm} \times \Delta r \text{ (btu/lb(da))}}{12,000}$$

(4.5 = Density x 60 min/hr)

$$\text{Coil Load (Btu/hr)} = 500 \times \text{gpm} \times \Delta T$$

(500 = Specific Heat x Density x 60 min/hr)

$$\text{Pump Head (ft)} = \frac{2.31 \times \text{Pressure Drop (psi)}}{\text{Specific Gravity of fluid}}$$

$$\text{Pump Power (hp)} = \frac{\text{gpm} \times \text{Head (ft)} \times \text{S.G. of fluid}}{3960 \times \text{Efficiency}}$$

$$\text{Fan Power (hp)} = \frac{\text{cfm} \times \text{Static Pressure (in w.g.)}}{6356 \times \text{Efficiency}}$$

## Conversions

$$1 \text{ Therm} = 100,000 \text{ Btu} = 100 \text{ cu ft of Natural Gas}$$

$$1,000,000 \text{ Btu} = 1,000 \text{ MBtu} = 1 \text{ MMBtu}$$

$$1 \text{ MCF} = 10 \text{ CCF} = 1,000 \text{ cu ft} = 1,000,000 \text{ Btu}$$

$$1 \text{ Ton} = 12,000 \text{ Btu/hr}$$

$$1 \text{ Therm} = 29.3 \text{ kWh}$$

$$1 \text{ kW} = 3,413 \text{ Btu/hr} = 3.413 \text{ MBh} = 1,000 \text{ W}$$

$$1 \text{ lb of steam} = 1000 \text{ Btu}$$

$$1 \text{ kWh} = 3,413 \text{ Btu}$$

$$1 \text{ Gallon of Fuel Oil \#2} = 140,000 \text{ Btu}$$

$$1 \text{ HP} = 0.746 \text{ kW} = 2,544 \text{ Btu/hr}$$

$$7000 \text{ grains} = 1 \text{ lb mass water}$$

$$1 \text{ lb of water vapor} = 1076 \text{ Btu (latent heat of water vapor)}$$

$$1 \text{ psi} = 2.31 \text{ ft H}_2\text{O} = 27.72 \text{ in. H}_2\text{O} = 2.04 \text{ in Hg}$$



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit [trane.com](http://trane.com) or [tranetechnologies.com](http://tranetechnologies.com).