

# Cleveland Line Card

PRODUCTS & SYSTEMS SOLUTIONS



## Affiliated Products

### Alliance

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

### Airtite

Radiant Ceiling Systems  
[www.armstrongceilings.com](http://www.armstrongceilings.com)

### ArctiChill

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

Architectural Screening  
[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)

### Filtrine

Specialty chillers  
[www.filtrine.com](http://www.filtrine.com)

## YOUR SINGLE SOURCE SOLUTIONS PROVIDER

Trane Cleveland  
9555 Rockside Road,  
Valley View, Ohio 44125  
[Trane.com/Cleveland](http://Trane.com/Cleveland)

### Contact Us

216-654-1000

### Office Hours

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

## Affiliated Products (Continued)

### 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 and Custom Accessories  
[www.cdicurbs.com](http://www.cdicurbs.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  
[www.systecon.com](http://www.systecon.com)

### Thybar

Custom Curbs, AHU Modifications & Spring Isolation  
[www.thybar.com](http://www.thybar.com)

### Xetex

DOAS & Custom AHU Solutions  
[www.xetexinc.com](http://www.xetexinc.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)

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

(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 Therm = 100,000 Btu = 100 cu ft of Natural Gas

1,000,000 Btu = 1,000 MBtu = 1 MMBtu

1 MCF = 10 CCF = 1,000 cu ft = 1,000,000 Btu

1 Ton = 12,000 Btu/hr

1 Therm = 29.3 kWh

1 kW = 3,413 Btu/hr = 3.413 MBh = 1,000 W

1 lb of steam = 1000 Btu

1 kWh = 3,413 Btu

1 Gallon of Fuel Oil #2 = 140,000 Btu

1 HP = 0.746 kW = 2,544 Btu/hr

7000 grains = 1lb mass water

1 lb of water vapor = 1076 Btu (latent heat of water vapor)

1 psi = 2.31 ft H<sub>2</sub>O = 27.72 in. H<sub>2</sub>O = 2.04 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).