GLOSSARY of INDUSTRY TERMS:

Air Pressure Drop
This is the air pressure drop for the coil at standard rating conditions. The air pressure drop is a function of flow rate, Fin Type, Rows and FPI. In addition, on dehumidifying coils, the air pressure drop is affected by the condensate on the fin surface.

Airflow (SCFM)
Airflow refers to the volumetric flow of air across the coil. SCFM stands for Standard Cubic Feet Per Minute. The amount of airflow allowed across a coil is a function of the face velocity. Too little airflow may cause unpredictable thermal performance, while too much airflow may cause water carryover, noise and erosion problems.

For wet coils (where the total capacity is greater than the sensible capacity), a face velocity of less than 550 SFPM should be maintained.

Altitude
Altitude refers to the distance (in feet) above sea level at which the coil will be installed. Since the thermal performance of the heat exchanger is a function of mass flow rate, increased altitudes (thus lower air densities) will affect the coil performance.

Casing Material
Casing material refers to the end plates, tube supports and top & bottom plates. We offer the following materials: Galvanized Steel, 304 Stainless Steel, Aluminum. Please contact the factory if you require a different material than those listed. Casing material affects the coil weight and price.

Casing Type
All coils are offered with the following casing options: Flanged (Standard), Inverted, End Plates Only. With Steam Coils, you are also given the option of a Pitched Casing.

Coil Coating
We offer several different types of protective coatings for your coils. If your application requires a special coating simply select "Yes-See Spec" in this field and enter the specifications in the Special Notes section of the General Tab. This information will be printed on your reports.

Coil Rating   Coil Rating can be performed on Water, DX, Steam and Condenser Coils. With a rating, the user typically knows the physical characteristics of the coil (Rows, FPI, Feeds) and wishes to determine the performance at a given set of conditions. If the user specifies the number of Rows, FPI and Feeds, then the program will automatically go into the Rating mode and calculate the performance.

When in the Rating mode, the Leaving Air Temperature and Total Btu/h requirements are not necessary and have no bearing on the calculated performance.

Coil Selection   Coil Selection can be performed on Water, DX and Steam coils. The program will automatically optimize the number of Rows, FPI and Feeds based on your performance requirements. Simply select "Auto-Select" in the appropriate dropdown list and the program will find the best solution. There are no special requirements for obtaining a selection, merely set any appropriate item to "Auto-Select" and click the Performance Tab.

When in the Selection mode, the user must provide information on the desired thermal performance of the coil (e.g. Leaving Air Temperature, Total Btu/h).

Coil Style   Coil Style refers to the circuiting arrangement of a DX coil. Available styles include: Standard (single circuit), Face Split (dual Circuit), Interlaced (dual circuit) Face Split, Interlaced (4 circuits).

The coil style is a function of the application. Feel free to contact us if you need help making a selection.

Condensing Temp.   This value is only applicable to Condenser coils. Condensing Temperature refers to the saturated refrigerant temperature at the inlet of the condenser coil. Condenser coil capacity is proportional to condensing temperature.

Connection Material And Type
                           Valid connection materials and types are as follows:
                           DX & Condenser Coils – Copper SWT Only

Water & Steam Coils – Copper SWT, MPT or FPT and Steel MPT or FPT

Dry Weight This is an estimated weight of the dry coil. This figure does not include the internal fluid or the packaging required for shipment. Contact the factory if you need assistance in estimating these values.

Entering Air Dry Bulb Temperature

The sensible temperature entering the coil is referred to as the entering air dry bulb temperature. This value is required for all coils in both the selection and the rating mode.

Entering Air Wet Bulb Temperature

The temperature of the air entering the coil as measured by a psychrometer. This temperature represents the amount of moisture in the air. This value is required for all cooling coils in both the selection and the rating mode.

Entering Fluid Temperature

This value is only applicable to Water coils. This is the temperature of the fluid (water/glycol) at the inlet of the coil. This value is required for all Water coil selections and ratings.

Evaporating Temperature

This value is only applicable to DX coils. The Evaporating Temperature is the saturated refrigerant temperature at the exit of the DX coil. DX Coil capacity is inversely proportional to evaporating temperature. This temperature does not include superheat. The amount of superheat at the exit of the DX coil has been factory set at 10 °F for calculation purposes.

Face Pitch Face Pitch is the centerline distance between two consecutive tubes in the coil face.
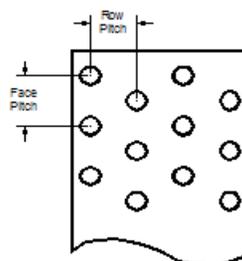
Feeds	Number of parallel circuits in the coil. The following information may assist new users in dealing with this value.
	DX Coil - Leave this value blank and the program will optimize the number of feeds in the coil based on thermal performance.
	Condenser - Since the condenser is a rating program only, the user must enter a value for the number of feeds. A good rule of thumb is to have approximately 8-15 psi refrigerant pressure drop in the condenser.
	Water - Select "Auto-Select" and the program will optimize the number of feeds based on thermal performance and internal pressure drop.
	Steam - Not applicable
Fin Height	Fin Height is the distance of the front face perpendicular to the tubes. This dimension can only be in multiples of the face pitch. Please see Fin Type for more information on face pitch values.
Fin Material	Currently, there are three options for fin material: Aluminum (Standard), Poly-coat Aluminum or Copper.
	Fin material will impact the thermal performance, weight and price of the coil.
Fin Thickness	Available Fin Thickness is a function of the Fin Type. Fin thickness will impact the thermal performance, weight and price of the coil.
Fin Type	Fin Type refers to the desired coil fin surface. The fin type specifies the Tube OD, Face Pitch, Row Pitch and Configuration of the fin. Fin Type descriptions are as follows:
	Tube OD _ Face Pitch x Row Pitch _ Configuration
	Example: 58 1.50 x 1.3 Waffle Tube OD = 5/8" Face Pitch = 1.50" Row Pitch = 1.3" Configuration = Waffle

Finned Length

Finned Length is the distance of the front face parallel to the tubes. This dimension can be entered to the second decimal place (e.g. 100.25).

Fins Per Inch

Fins Per Inch represents the fin spacing of the coil. The program will only allow selection of available FPI. FPI availability is a function of the Fin Type. This value can be set to "Auto-Select" while in the Water, DX or Steam mode for a coil selection.

Acceptable Fins Per Inch:
- 5/8" Coils (4-16 FPI)
- 1/2" Coils (6-18 FPI)
- 3/8" Coils with 1.0" Face Pitch (8-22 FPI)
- 3/8" Coils with 1.25" Face Pitch (6-18 FPI)
- 1-1/8" Steam Coils (4-14 FPI)

Fluid

This value is only applicable to Water coils. The Water coil portion of the program offers three internal fluid choices: Water, Ethylene Glycol (0-60% concentration), Propylene Glycol (0-60% concentration)

Fluid Flow Rate (GPM)

This value is only applicable to Water coils. This is the volumetric flow rate of the internal fluid (water/glycol). This value is required for all Water coil selections and ratings whenever the Leaving Fluid Temperature is not specified.

Hand

Coil hand can sometimes be confusing…different manufacturers have different ways of referencing the coil hand. Our standard reference is looking in the same direction as the airflow (with the air hitting you in the back of the head).

HGBP Quantity

The user can select the number of HGBP, or Auxiliary Side Connectors, to be included with the DX coil. These connectors are used to bypass gas around the high-side heat exchanger and inject it directly into the distributor.

Leaving Air Dry Bulb Temperature

The sensible temperature leaving the coil is referred to as the leaving air dry bulb temperature. This value

is calculated for all coils in both the selection and the rating mode.

Leaving Air Wet Bulb Temperature

The temperature of the air leaving the coil as measured by a psychrometer. This temperature represents the amount of moisture in the air.

This value is calculated for all cooling coils in both the selection and the rating mode.

Leaving Fluid Temperature

This value is only applicable to Water coils. This is the temperature of the fluid (water/glycol) at the outlet of the coil. This value is required for all Water coil selections and ratings whenever the fluid flow rate (GPM) is not specified.

Liquid Temperature

This value is only applicable to DX coils. Liquid Temperature is the temperature of the subcooled refrigerant entering the DX coil. Neglecting temperature loss in the liquid line, this is equivalent to the refrigerant temperature leaving the condenser.

Max FPD

This value is only applicable to Water coils in the Coil Selection mode. Max FPD refers to the maximum amount of internal (fluid) pressure drop acceptable in ft. of water. This value is not required; however, you should check the pressure drop on the Performance Tab once the selection is complete and verify that this value is acceptable.

Refrigerant

The DX and Condenser portions of the program offer a wide selection of refrigerants. Additional refrigerants will be added as it becomes necessary. The following is a current list of available refrigerant options: R-12, R-22, R-134A, R-404A, R-410A, R-507

Refrigerant Pressure Drop

Shown on the Performance Tab. Applicable to DX and Condenser Coils. This is the difference in refrigerant pressure at the inlet and the exit of the coil.

Row Pitch   Row Pitch is the centerline distance between tubes in one row and the next.
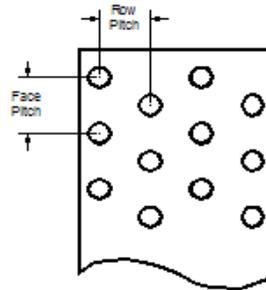
Rows   Rows represents the coil depth in rows. The program will only allow selection of available rows. Row availability is a function of the coil type. This value can be set to "Auto-Select" while in the Water, DX or Steam mode for a coil selection.

Sensible Capacity   This is the sensible capacity of a coil at the conditions specified. Sensible capacity refers to the amount of heat transfer measured by a change in dry bulb temperature. This value is applicable to all coils. The sensible capacity for a heating coil or a dry cooling coil will be equal to the total capacity.

On wet coils, the difference between total and sensible capacity is called latent capacity and it is a function of the water vapor condensed out of the airstream during the cooling/dehumidifying process.

Steam Condensate   Applicable to Steam Coils only. This the amount of condensate generated by a steam coil operating at the specified conditions.

Steam Pressure   This value is only applicable to Steam coils. Steam Pressure refers to the saturated steam pressure at the inlet of the Steam coil. Steam coil capacity is proportional to Steam Pressure.

Subcooling   This value is only applicable to Condenser coils. Subcooling refers to the difference between the saturated refrigerant temperature and the actual refrigerant temperature at the exit of the condenser coil.

If you have a dedicated subcooler, you can set this value to (0) zero and the program will calculate the coil as strictly a 2-phase condenser. Otherwise, enter the desired amount of subcooling.

Total Capacity   This the total capacity of a single coil at the conditions specified. This value is applicable to all coils.

Tube Material   Currently, there are two options: Copper, Cu-Ni (Cupro-Nickel). Tube material will impact the thermal performance, weight and price of the coil.

Tube Thickness   Available Tube Thickness is a function of the Tube Diameter and therefore a function of Fin Type. Tube thickness will impact the thermal performance, weight and price of the coil.