Modular Coil

Modular coils offers a replacement solution for cases where the space to maneuver is limited. A fluid coil built in two modules allows a module to fit in elevators and tight spaces making the installation and transportation of a coil this big easier. Using a module coil might save expenses such demolition/remodel and crane services, saving also reducing down time of different areas.

Module Coil Construction

Modular Coil Material Construction		
Tube	Material	Cu (Std) CuNi SS
	OD	5/8” 1/2”
	Wall	0.035” (Min)
Tube Plate	Material	CS (Std) SS Brass
	Thickness	3/4" (Min) *Depending on working pressure

A module coil is a fluid coil constructed in two parts by reducing the face area by two times the tube plate thickness. Modular coil limitations are the same as fluid coil. Since the split is done on the face of the coil circuits offered for the different fluid coils are available for modular coils. Coil will have a header side and a return bend side. Opposite end connection coils are available depending on the circuit. Dimensions of the coil will follow standard Heatcraft design of a fluid coil adding 3 inches to the fin width of the coil design.

Module Coil Construction

Selection of the modular coil will have same limits such as number of row, number of fins per inche and circuiting are the same as a fluid coil. The module coil selection should be done as a standard fluid coil. The difference will be on the FL. Because of the split the FL will have to be reduced by two times the tube plate thickness. This will increase the face velocity increasing the air pressure drop too.

GENERAL FORMULAS

TOTAL BTUH (Air Cooling) Total BTUH = 4.5 x SCFM x (Total Heat Ent. Air - Total Heat Lvg. Air) Where 4.5 = Density Std. Air x Min./Hr. Density Std. Air = 0.075 lbs./cu.ft. Min./hr. = 60	**SENSIBLE BTUH (Air Cooling)** Sensible BTUH = 1.08 x SCFM x (Ent. Air DB - Lvg. Air DB) Where 1.08 = (Specific heat of air) x (Minutes/Hr.) x Density Std. Air Specific heat = 0.24 btu/lb.F Min./hr. = 60 Density Std. Air = .075 Lbs./cu. ft.
TOTAL BTUH (Air Heating) Total BTUH = 1.08 x SCFM x (Lvg. Air DB - Ent. Air DB) Where 1.08 = (Specific heat) x (Minutes/Hr.) x Density Std. Air Specific heat = 0.24 btu/lb.F Min./hr. = 60 Density Std. Air = 0.075 Lbs./cu. ft.	**TOTAL BTUH (Water Side)** Total BTUH = 500 x GPM x (Lvg. Water Temp - Ent. Water Temp) Where 500 = Lbs./ Gal. x Min./Hr. x Specific heat water Lbs./gal. = 8.33 Min./hr.= 60 Specific heat = 1 btu/lb.F