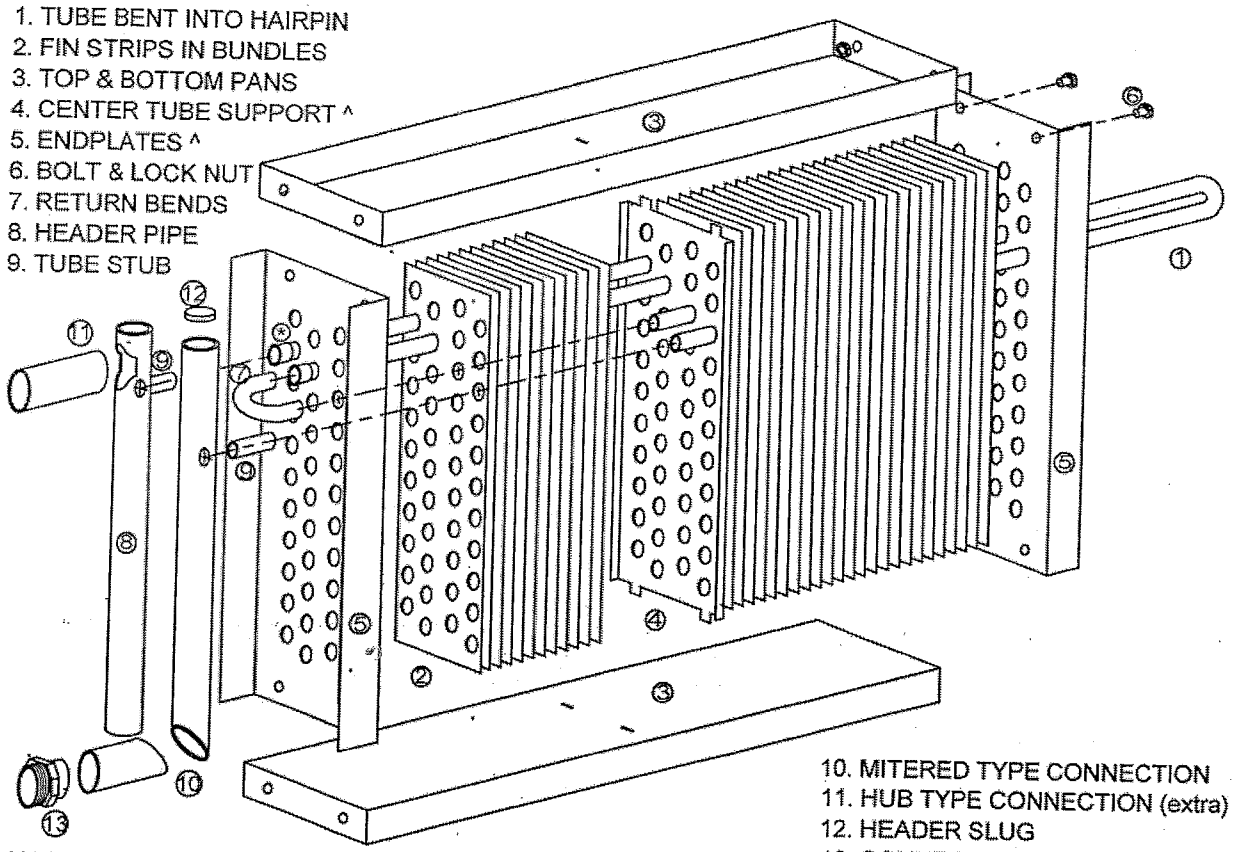
SUPER RADIATOR COILS

www.superradiatorcoils.com

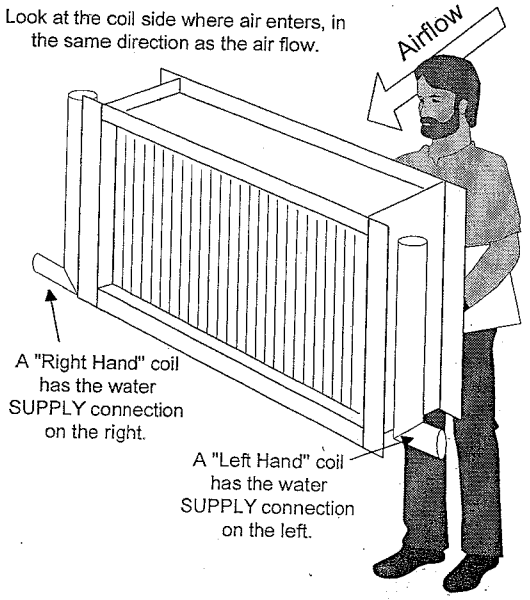
Coil Components and Airflow Definitions

1. TUBE BENT INTO HAIRPIN
2. FIN STRIPS IN BUNDLES
3. TOP & BOTTOM PANS
4. CENTER TUBE SUPPORT ^
5. ENDPLATES ^
6. BOLT & LOCK NUT
7. RETURN BENDS
8. HEADER PIPE
9. TUBE STUB



^ HAS EXTRUDED TUBE HOLES (NO SHARP EDGES)
* TUBE EXPANDED / TRIMMED / CUPPED

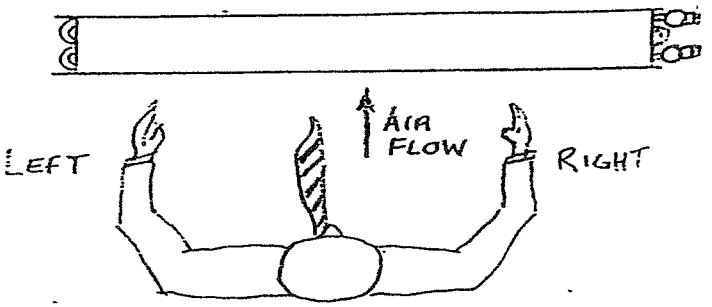
10. MITERED TYPE CONNECTION
11. HUB TYPE CONNECTION (extra)
12. HEADER SLUG
13. CONNECTION FITTING
14. VENT / DRAIN FITTINGS w/ PLUG



Coils can have the supply and return headers on the same end of the coil or the opposite ends of the coil. For such designs, establish the coil hand based on which end of the coil the fluid enters. Then note that the coil has the supply header and the return header at opposite ends of the coil. If not specified the coil is assumed to have both headers on the same end.

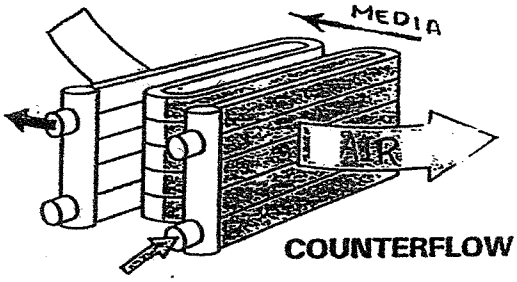
coilhand.vsd 5/01 ws

GENERAL COIL TERMINOLOGY

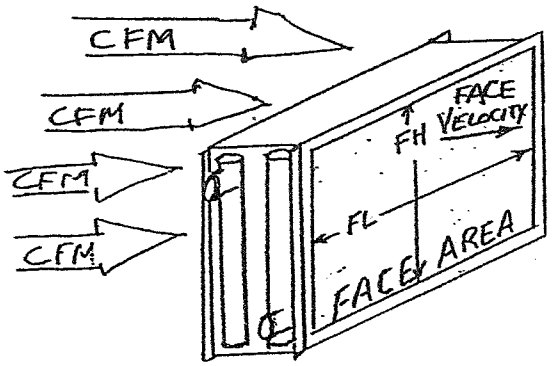


COIL HAND: COIL HAND IS DETERMINED WHEN FACING INTO THE FINNED AREA OF THE COIL IN DIRECTION OF AIR FLOW, IF CONNECTIONS ARE ON THE RIGHT SIDE THE COIL IS RIGHT HANDED, IF CONNECTIONS ARE ON LEFT SIDE THE COIL IS LEFT HANDED. COILS WITH OPPOSITE END CONNECTIONS ARE BASED ON SUPPLY CONNECTION LOCATION.

COUNTERFLOW: COILS, ESPECIALLY MULTI-ROW FLUID AND EVAPORATOR COILS, SHOULD BE PIPED IN THIS ARRANGEMENT. THE HEAT TRANSFER MEDIA TRAVELS IN THE OPPOSITE DIRECTION OF AIRFLOW. THIS ASSURES THE MOST EFFICIENT HEAT TRANSFER.



COUNTERFLOW



$$\text{FACE AREA} = \frac{FH \times FL}{144}$$

$$\text{FACE VELOCITY} = \frac{\text{AIR FLOW (CFM)}}{\text{FACE AREA}}$$

FACE AREA: THE FACE AREA REFERS TO THE ACTUAL HEAT TRANSFER SURFACE, NOT OVERALL DIMENSIONS. FACE AREA IS DETERMINED BY MULTIPLYING FINNED HEIGHT BY FINNED LENGTH. THIS WILL GIVE YOU FACE AREA IN SQUARE INCHES, DIVIDE BY 144 TO CONVERT SQUARE INCHES TO SQUARE FEET.

FACE VELOCITY: THIS IS THE SPEED OF THE AIR ACROSS THE FACE OF COIL. FACE VELOCITY IS A VERY IMPORTANT FACTOR OF COIL PERFORMANCE. TO COMPUTE YOU MUST KNOW COIL FACE AREA (SQUARE FEET) AND AIR FLOW IN CFM (CUBIC FEET PER MINUTE). FACE VELOCITY (FEET PER MINUTE) IS EQUAL TO AIR FLOW (CFM) DIVIDED BY COIL FACE AREA (SQUARE FEET).