

Summit hot water coils- CCWC & CCDC Installation Instructions

Water Piping

All piping must be supported independent of coils to prevent vibration and stress on coil headers. Swing joints or flexible fittings must be provided to absorb expansion and contraction strains. Rigid piping reduces the effectiveness of vibration isolators. Coil water pipes must be adequately vented in order to prevent air binding. Units are provided with manual air vents mounted through the manifold panel. After the water lines are connected, the piping system should be filled with water. Open the air bleed vent screw near the top of the coil. Allow the air to escape while filling the system. When a steady stream of water appears tighten the air bleed vent screw.

Insulate the supply and return hot water lines the entire length of run between the boiler or hot water heater and hydronic coil. A nominal wall thickness of 1/2 inch flexible foam rubber closed-cell pipe insulation, suitable for 220°F is recommended.

Residential Water Heater

If a residential water heater is used for space heating water, do not exceed a distance of 70' between the coil and the water heater. The water heater should be the quick recovery type. The coil and water heater must be located indoors and not subject to freezing temperatures.

"Massachusetts requires an electronically controlled pump timer that activates the pump every 6 hours for 60 seconds and limits the distance between the water heater and the air handler to 50 feet max."

WARNING

Hot water coils must be located so that if any connections should leak, water will not cause damage to the adjacent area. When such locations can't be avoided, a suitable drain pan should be installed under the application with a minimum length and width at least 2" greater than the application and connected to an adequate drain. Under no circumstances is the manufacturer to be held liable for any water damage in connection with this coil.

Provisions must be made to prevent freezing and damage to equipment and adjacent area.

All piping must be in accordance to local plumbing laws and regulations.

Maintenance

The hydronic coil surface on the inlet side of the coil should be cleaned periodically and the air purged from the piping system annually. Filters should be maintained.

CCWC cased hot water booster coils- mount on outlet of Air Handlers (installed vertically or horizontally).

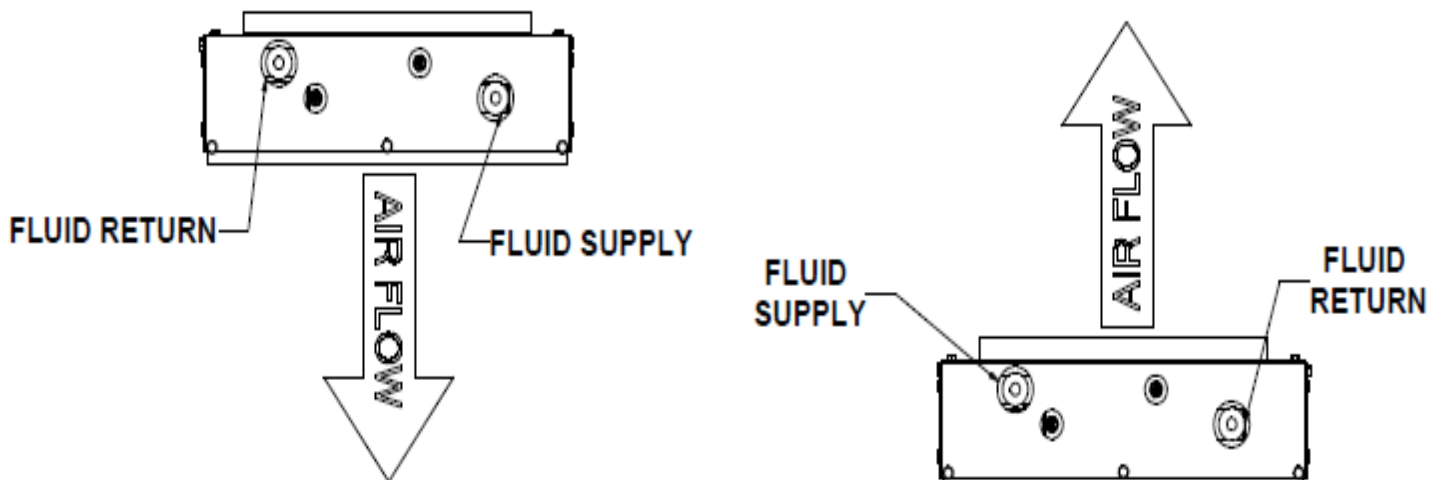


Figure1: CCWC – Recommended Piping

CCDC duct booster coils install in the duct system with airflow in either direction. The coil must be supported adequately to include the weight of the water.

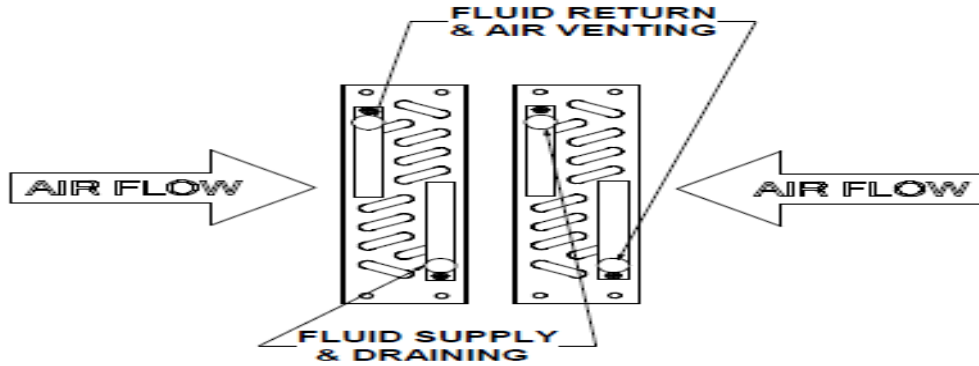


Figure 2: CCDC – Recommended Piping

HOT WATER HEATING CORRECTION FACTORS									
EAT °F	Entering Water Temp °F								
	100	110	120	130	140	150	160	170	180
50	.419	.500	.579	.665	.742	.838	.917	1.000	1.090
55	.376	.460	.544	.629	.708	.791	.873	.963	1.048
60	.335	.419	.500	.579	.665	.742	.838	.917	1.000
65	.290	.376	.460	.544	.629	.708	.791	.873	.963
70	.251	.335	.419	.500	.579	.665	.742	.838	.917
75	.205	.290	.376	.460	.544	.629	.708	.791	.873
80	.167	.251	.335	.419	.500	.579	.665	.742	.838

When correction factors are used for various entering air and water temperatures, multiply the correction factor times listed capacity. The correction factors may be used with all Summit published 180° E.W.T. heating capacities.

CORRECTION FACTOR FOR GLYCOL							
EWT °F	Ethylene Glycol Correction Factors (Percent Of Concentration)						
	20%	30%	40%	50%	60%	70%	80%
100	.990	.960	.930	.890	.850	.810	.760
120	.990	.960	.932	.888	.854	.815	.765
130	.990	.960	.934	.886	.858	.819	.769
140	.990	.960	.936	.884	.863	.824	.775
150	.990	.960	.940	.870	.870	.830	.780
160	.990	.962	.940	.880	.872	.834	.786
170	.990	.964	.940	.888	.874	.837	.791
180	.990	.966	.940	.899	.876	.841	.797

Correction factors calculated at nominal CFM.

CORRECTION FACTOR FOR GLYCOL							
EWT °F	Propylene Glycol Correction Factors (Percent Of Concentration)						
	20%	30%	40%	50%	60%	70%	80%
100	.941	.912	.884	.846	.808	.770	.722
120	.941	.912	.885	.844	.812	.774	.727
130	.941	.912	.887	.842	.815	.778	.731
140	.941	.912	.889	.840	.819	.783	.736
150	.941	.912	.893	.827	.827	.789	.741
160	.941	.914	.893	.836	.828	.792	.747
170	.941	.915	.893	.844	.830	.795	.751
180	.941	.917	.893	.854	.832	.799	.757

Correction factors calculated at nominal CFM.