


TECHNICAL DIRECTORY

Buiding - 2.28			
Industry classification Buiding		<i>Water Cooled Evaporative Air Conditioning</i>	
Technology Classification Air Conditioning			
Outline	This technology is not related to the conventional Evaporative Air Coolers, often called swamp coolers. Water is used to remove heat from the refrigerant and at the same time reduce the work of the compressor. The Water Cooled Evaporative Air Conditioner is a residential application of a technology already in use in commercial buildings for split system air conditioners known as chillers. Think of this technology as a mini-chiller for residential use.		
Principle & Mechanism	The compressor compresses the R-22 refrigerant. A small water pump continually sprays water over the condenser coil, which cools the coil primarily via conduction. A float maintains approximately 3.5 inches of water in the bottom of the condenser. Every 8 hours of run time, a timer causes a purge pump to pump all water from the bottom of the unit (approximately 5-8 gallons). The float valve then causes more water to flow until a level of about 3.5 inches is restored. Water removes heat from the condenser coils far more efficiently than air. The heat transfer and evaporative process is increased via a fan on top of the condenser.		
Description			
Structure explanation, shapes, and/or System diagram			
Energy Saving effect	This technology save about 25 to 40% reduction of overall power consumption relative to other AC manufacturer and a 40 to 50% reduction in peak power consumption		
Economics Equipment Cost	The cost of this Technology, AC condenser is comparable with other AC manufacturer		
Remark	This units will have lower operational costs compared to other air conditioners manufacturer		
Example Sites Residential	References		Inquiry PATH Technology