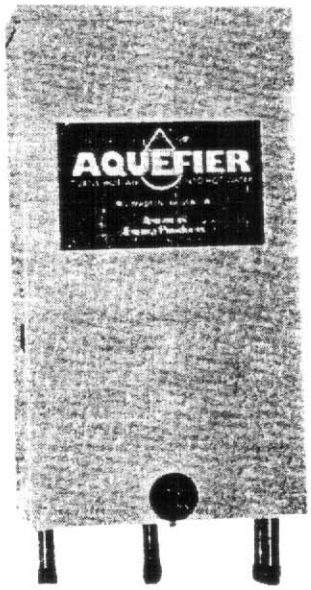
Trevor-Martin Corporation	AQUEFIER™ HEAT RECOVERY UNIT	MODEL R6K

SPECIFICATION SHEET

HEAT RECOVERY UNIT FOR DOMESTIC HOT WATER FROM RESIDENTIAL HVAC SYSTEMS

DESCRIPTION:

The AQUEFIER Heat Recovery Unit captures waste heat discharged from the refrigerant cycle in an Air Conditioning or Heat Pump system, and transfers that heat into a water heater tank, thereby creating low cost hot water for domestic use. Not only does the Heat Recovery Unit substantially reduce the amount of energy required to provide domestic hot water, but it also improves the cooling efficiency of the Air Conditioner or Heat Pump while it is operating. The Model R6K is designed to operate with systems of 1½ to 5 ton cooling capacity.



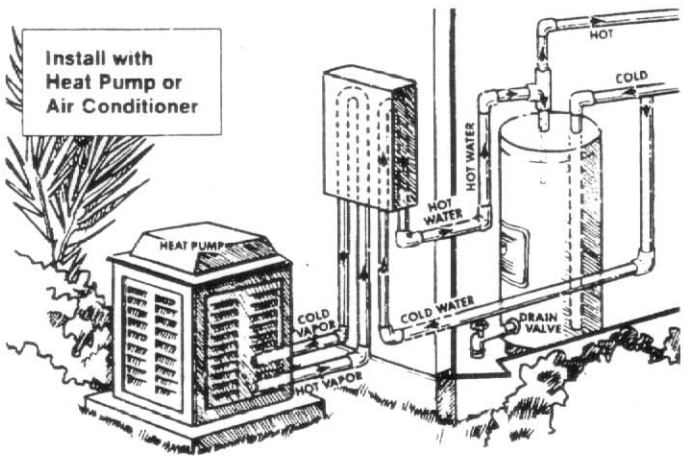
FEATURE HIGHLIGHTS

- 230 volt wiring for easy connection to compressor contactor
- Factory wired and preset controls
- Fully automatic operation
- High-Efficiency All-Copper Vented Double-Wall Heat Exchanger
- Water lubricated low wattage Circulator
- Grounded electrical circuit.
- Sturdy Aluminum Cabinet with baked enamel finish for outdoor or indoor use
- ARL listed Appliance, with UL approved components
- Choose from Heat Pump or Straight Cool Models
- Freezestat option available
- Water connection accessories available

APPLICATION:

The refrigerant side of the Heat Recovery Unit Heat Exchanger is installed in the refrigerant hot gas line between the compressor and condensor; or between compressor and reversing valve, if installed on a Heat Pump System. The water side of the Heat Exchanger is connected to the water heater tank to form a circulation loop. Power is drawn from the compressor contactor. Waste heat may be collected when the compressor operates, and the water circulating from the water heater tank is less than 140F. On Heat Pump Models, a minimum refrigerant temperature of 125F is also required to allow Heat Recovery operation.

APPLICATION CAUTION: Installations subject to freezing ambients must make provision for freeze protection. Heat Recovery Units containing freezestats must draw power from the line side of the compressor contactor. Drainable hand valves are a more positive freeze protection approach.



SPECIFICATIONS AND INFORMATION

THESE SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MOUNTING/LOCATION

AQUEFIER Heat Recovery Units may be mounted indoors or outdoors. They must be mounted vertically, at a height above the top of the Condensor. While normally located outdoors near the air conditioning equipment, they can be located in any convenient place, such as the garage or laundry room; but the refrigerant run should be kept to a minimum.

CONTROLS

All AQUEFIER models contain a water high limit control. It is factory set to 140F. Heat Pump equipped models also contain a refrigerant gas low limit. It is factory set to 125°F. Freeze-protected models are equipped with a water low limit. It is factory set to 50F, and is designed to operate when water temperatures of 40F or less are detected, in order to provide water circulation independent of compressor operation, in the event of freezing ambients.

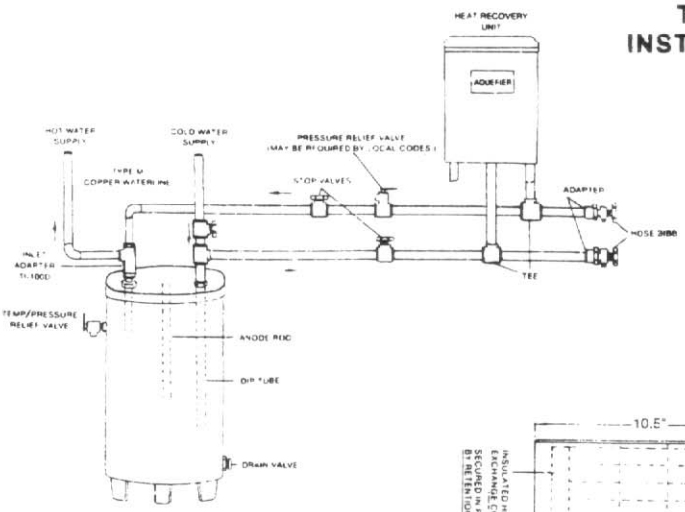
HEAT EXCHANGER

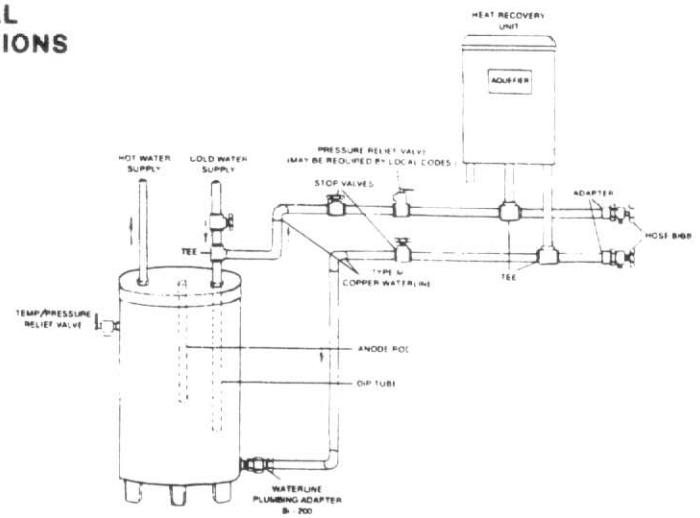
AQUEFIER Heat Recovery Units contain a corrosion resistant all-copper double wall heat exchanger of counterflow twin tube design. Continuously vented along its entire length, the Heat Exchanger meets strict IAPMO safety criteria, and exceeds UL requirements.

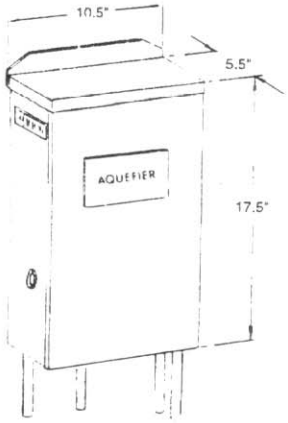
CIRCULATOR PUMP

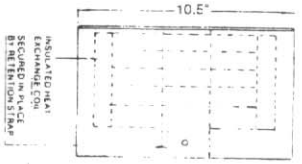
AQUEFIER Heat Recovery Units contain a low wattage wet rotor in-line single stage circulator. Standard Models use a Taco 006 series circulator. This water cooled pump is rated at 90 watts, 230 volts and .40 amps. It is designed for 125 psi working pressure and up to 220F fluid temperature. The pump housing is bronze and the bearings are ceramic.

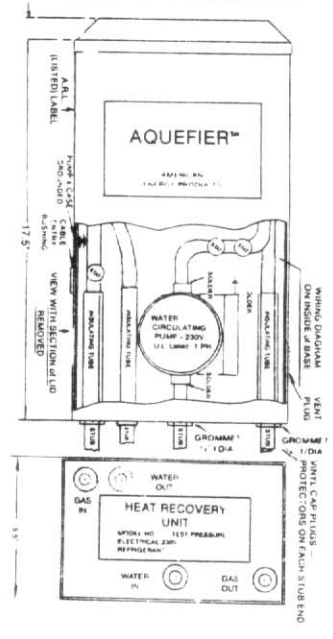
TYPICAL INSTALLATIONS











WARRANTY: AQUEFIER Heat Recovery Units offer a limited Parts Warranty as follows: Heat Exchanger - 5 Years; Pump - 3 Years; All other components - 1Year.

AQUEFIER Heat Recovery Units

MODEL	FEATURE	SHIP WEIGHT
R6K-1	Straight Cool equipped	13 lbs
R6K-HP	Heat Pump equipped	13 lbs
R6K-F	HP equipped, Freezestat included	13 lbs
R6K-1-PC	Straight Cool with valves & PRV	15 lbs
R6K-HP-PC	HP equipped, with valves & PRV	15 lbs
R6K-F-PC	HP equipped, with Freezestat, valves & PRV	15 lbs

High Presure (650psi test) Models available in all configurations add-410 to model number.
All Models suitable for use in 1½ to 5 ton systems.
All Models wired 230V 1phase; (optional) fused@ 0-75A

WATER LINE SIZING

Actual Size O.D.	Nominal Size	NOMINAL COOLING CAPACITY (BTU/H)			
		24,000	36,000	48,000	60,000
		Maximum One-Way Water Line Length (Feet)			
1/2	3/8	150	80	40	24
5/8	1/2	—	150	100	50
3/4	5/8	—	—	150	150

REFRIGERANT LINE SIZING

Refrigerant Tube Size O.D.	R-22 Charge Addition per 10 Feet oz.	NOMINAL COOLING CAPACITY (BTU/H)			
		24,000	36,000	48,000	60,000
		Maximum One-Way Refrigerant Tube Length (Feet)			
1/2	1.0	16	9	5	—
5/8	2.0	30	25	13	9
3/4	3.0	—	30	30	25

THERMAL PERFORMANCE (ARI 470-80, Modified for FLA.)

Water Side	Refrigerant Side	Nominal 5 Ton Cooling Capacity
EWT: 80° F LWT: 130° F Flow Rate 0.5 gpm (nominal)	Entering: 220° F Leaving: 125° F Flow Rate 610 lb/hr	Available Superheat: 12,923 Btuh Heat Transfered: 11,803 Btuh Net Superheat Recovery: 91.3%

ACCESSORIES

PART NO.	DESCRIPTION
BI-200	Adapts tank drain opening to return HRU water
TI-100D	Adapts tank HW outlet to return HRU water
CBI-300	Adapts tank drain opening to supply & return HRU water
PC-400	Drainable hand valves & pressure relief valve for field installation

4151 112TH TERRACE NORTH • CLEARWATER FLORIDA 33762 • **(727) 573-1490**