



doucette industries, inc.

# LIGHT COMMERCIAL HEAT RECOVERY UNIT

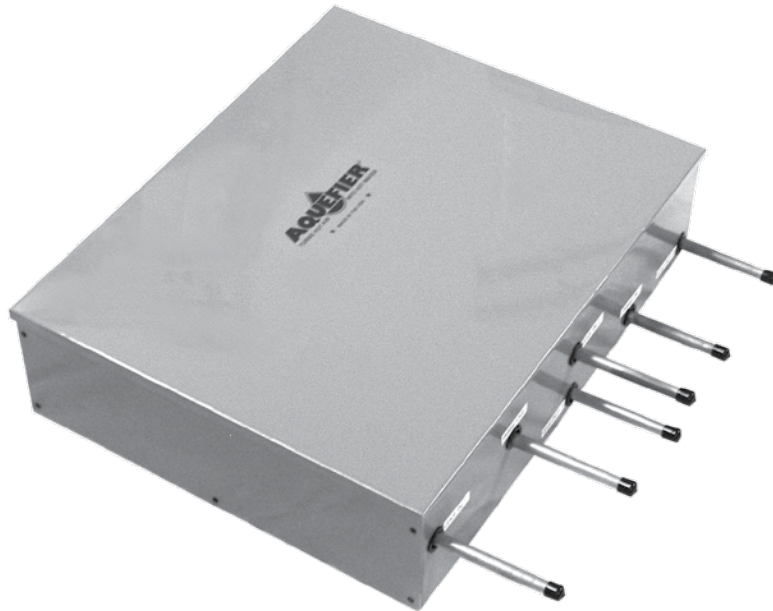
C Series

## SPECIFICATION SHEET

HEAT RECOVERY UNIT FOR DOMESTIC HOT WATER FROM COMMERCIAL HVAC SYSTEMS UP TO 20 TONS

### DESCRIPTION:

The Doucette 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 storage tank, thereby creating low cost hot water for domestic or service use. Not only does the Heat Recovery Unit substantially reduce the amount of energy required to provide domestic or service hot water, but it also improves the cooling efficiency of the Air Conditioner or Heat Pump while it is operating. The Light Commercial models are designed to operate with systems of 5 to 20 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
- Freezestat option available
- Single & Dual Curcuit Models

### APPLICATION:

The HRU will provide about 5 gallons of hot water per ton per hour of air conditioning or up to 40 gallons per hour from a 7-1/2 ton A/C. Virtually any application that has central air conditioning and a moderate to heavy use of hot water will realize significant savings.

### TYPICAL SAVINGS ESTIMATES

|  | NATURAL GAS<br>@ \$1.65/THERM | PROPANE<br>@ \$3.90/GAL | ELECTRICITY<br>@ \$.12/KWH |
|--|-------------------------------|-------------------------|----------------------------|
| FULL SERVICE RESTAURANT<br>500 Meals/Day | \$377.00/mo.                  | \$960.00/mo.            | \$565.00/mo                |
| JR/SENIOR HIGH SCHOOL<br>1000 Students   | \$405.00/mo.                  | \$1025.00/mo.           | \$603.00/mo.               |
| MOTELS/HOTELS<br>150 Rooms               | \$456.00/mo                   | \$1153.00/mo            | \$679.00/mo.               |

Actual savings may vary. Consult factory for detailed audit and sizing form.

## MECHANICAL SPECIFICATIONS

Pump - Taco 008B water lubricated, water cooled, 3250 RPM,  $\frac{1}{25}$  HP, 230/60/1, Max 16 GPM, Max Head 14 feet. U.L. listed, impedance protected, cartridge type impeller, Bronze casing, non-metallic impeller, ceramic shaft. 125 psi, 230° F max temp. rating, OR-Grundfos UP15-42,  $\frac{1}{25}$  HP, 230/60/1, max 19 gpm, Max Head 16 feet, U.L. Listed Stainless Steel inlet cone, impeller, rotor can, ceramic shaft and radial bearings, 145psi, max fluid temp. 140° F.

Heat Exchanger - All copper, counter flow, double wall and vented for potable water application, insulated; operating pressure, 650 psig, refrigerant, 150 psig water side (for use with R-12-22, 410, 500 and 502.)

Cabinet - .04 Aluminum, with Mill finish.

Controls - Water limit, adjustable 120° to 160° F or 140° fixed. Plus Refrigerant low limit 130° F.

Specifications subject to change without notice.

## INSTALLATION

Refrigerant - Run copper hot gas line from the A/C compressor to the HRU and back to the condenser coil. See installation instruction for line sizing. (Never reduce hot gas line size below that in the A/C.)

On heat pumps: run the line from the compressor to the HRU and back to the heat pump ahead of the 4-way reversing valve.

When possible install HRU above compressor

Insulate all lines.

Water - Run lines above ground or roof on 4x4" blocks.

Place check valve in water line (out) on multi-unit applications to prevent recirculation.

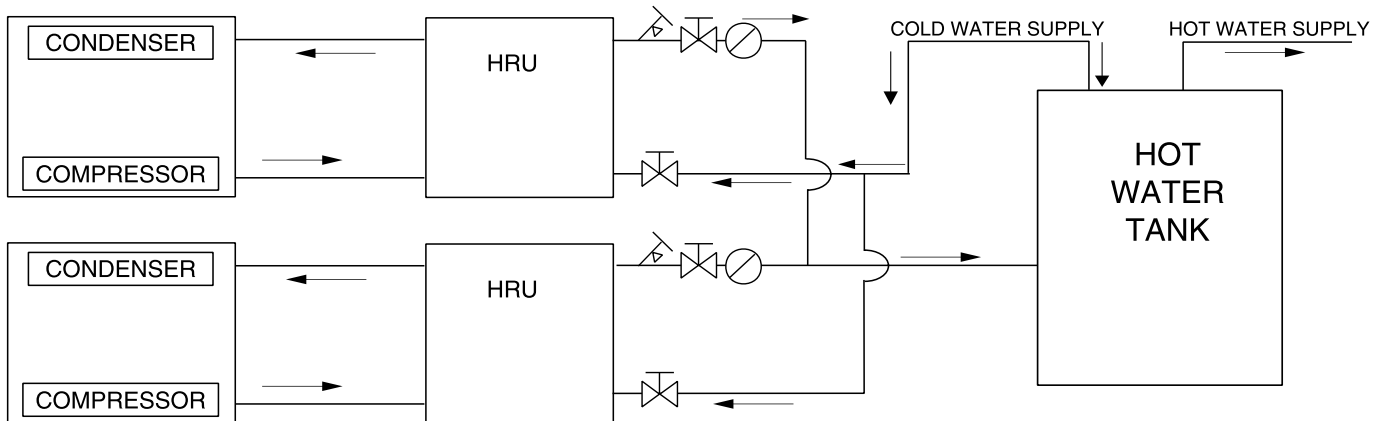
Use copper pipe for longest life.

Cabinet - May be installed horizontally or vertically.

(Never install with pump or access door facing down.)

SEE INSTALLATION INSTRUCTIONS FOR GREATER DETAIL

## TYPICAL MULTI-UNIT INSTALLATION



| MODELS  | A/C SIZE TONS | REF CIR | STD REF | WATER LINE (NOMINAL3) | ESTIMATED CAPACITY BTU/HR 13 SEER | G.P.M. @ FT. HD. | APPROX. WEIGHT | CABINET DIMENSIONS <sup>5,6,7</sup> |       |        |
|---------|---------------|---------|---------|-----------------------|-----------------------------------|------------------|----------------|-------------------------------------|-------|--------|
|         |               |         |         |                       |                                   |                  |                | LENGTH                              | WIDTH | HEIGHT |
| C060DW  | 5             | 1       | 1/2"    | 1/2"                  | 12,500                            | 2@8'             | 17#            | 16"                                 | 9"    | 6"     |
| C090DW  | 7.5           | 1       | 7/8"    | 3/4"                  | 18,750                            | 3@7'             | 32#            | 20"                                 | 21"   | 6"     |
| C090DWD | 7.5           | 2       | 1/2"    | 3/4"                  | 18,750                            | 3@7'             | 32#            | 20"                                 | 21"   | 6"     |
| C120DW  | 10            | 1       | 7/8"    | 3/4"                  | 25,000                            | 4@14'            | 32#            | 20"                                 | 21"   | 6"     |
| C120DWD | 10            | 2       | 1/2"    | 3/4"                  | 25,000                            | 4@14'            | 32#            | 20"                                 | 21"   | 6"     |
| C180DW  | 15            | 1       | 1-1/8"  | 3/4"                  | 37,500                            | 6@13'            | 60#            | 22"                                 | 21"   | 10"    |
| C180DWD | 15            | 2       | 7/8"    | 3/4"                  | 37,500                            | 6@13'            | 60#            | 20"                                 | 21"   | 10"    |
| C240DW  | 20            | 1       | 1-1/8"  | 3/4"                  | 50,000                            | 8@11'            | 50#            | 22"                                 | 21"   | 10"    |
| C240DWD | 20            | 2       | 7/8"    | 3/4"                  | 50,000                            | 8@11'            | 50#            | 20"                                 | 21"   | 10"    |