

# Chilling Filter Company

Energy Conservation Company



# The Chilling Filter Co.

## Objectives

Energy Conservation and System Reliability



# The Chilling Filter

- Improves the kW/Ton Ratio
- Reduces the head pressure
- Increases tonnage capability
- Reduces demand charges
- Increases unit cycle life
- Increases system reliability
- Reduces down time and repair costs

# The Chilling Filter

- Reduces the head pressure any HVAC system sees which increases the available tonnage of a unit.
- In reducing the head pressure the life of the system is prolonged by providing the same cooling with less wear and tear on the system
- Provides protection of the coils from dirt and damage which increases efficiency and reliability
- By reducing the work load any HVAC system sees repair costs are reduced and MTBF is increased

# Marvin Windows 40 Ton York



To Jim Brogden  
The Chilling Filter Co.

7/6/07

I am writing you to document my experience with the Chilling Filter. In 2006 after much discussion about your product I agreed to a trial installation on a 40 ton York roof top air conditioning unit that has been on our roof since 1992, we have 8 identical units in this area. Marvin Windows & Doors at Ripley, Tenn. has over 50 air units.

I have a HVAC control system that I can view the outlet temperatures and compressor operation on each unit. Since installing the Chilling Filter on this unit I have noticed the outlet temperature is consistently 4 or 5 degrees less than the other seven 40 ton units.

We just completed our summer preventive maintenance inspection and the unit with the Chilling filter was the only unit of the eight that did not require repairs, just belts and lubrication. So far I have not had any trouble calls on the unit in approximately a year. That is one of the reasons I have elected to install Chilling Filters on the remaining seven 40 ton York units. As a side point the filters protect the coils preventing hail damage from storms, in our area we seem to have hail every year.

I am looking forward to the completion of the remaining York units and expect a payoff in reliability, energy savings and area comfort for our associates.

Sincerely  
Walker Harmer  
Facilities/Environmental Engineer



Made for you.®

**Walker Harmer**  
Facilities/Environmental Engineer

101 Marvin Road  
Ripley, TN 38063  
Bus: 731-635-6428  
Fax: 731-221-3056  
e-mail: r\_walker@marvin.com

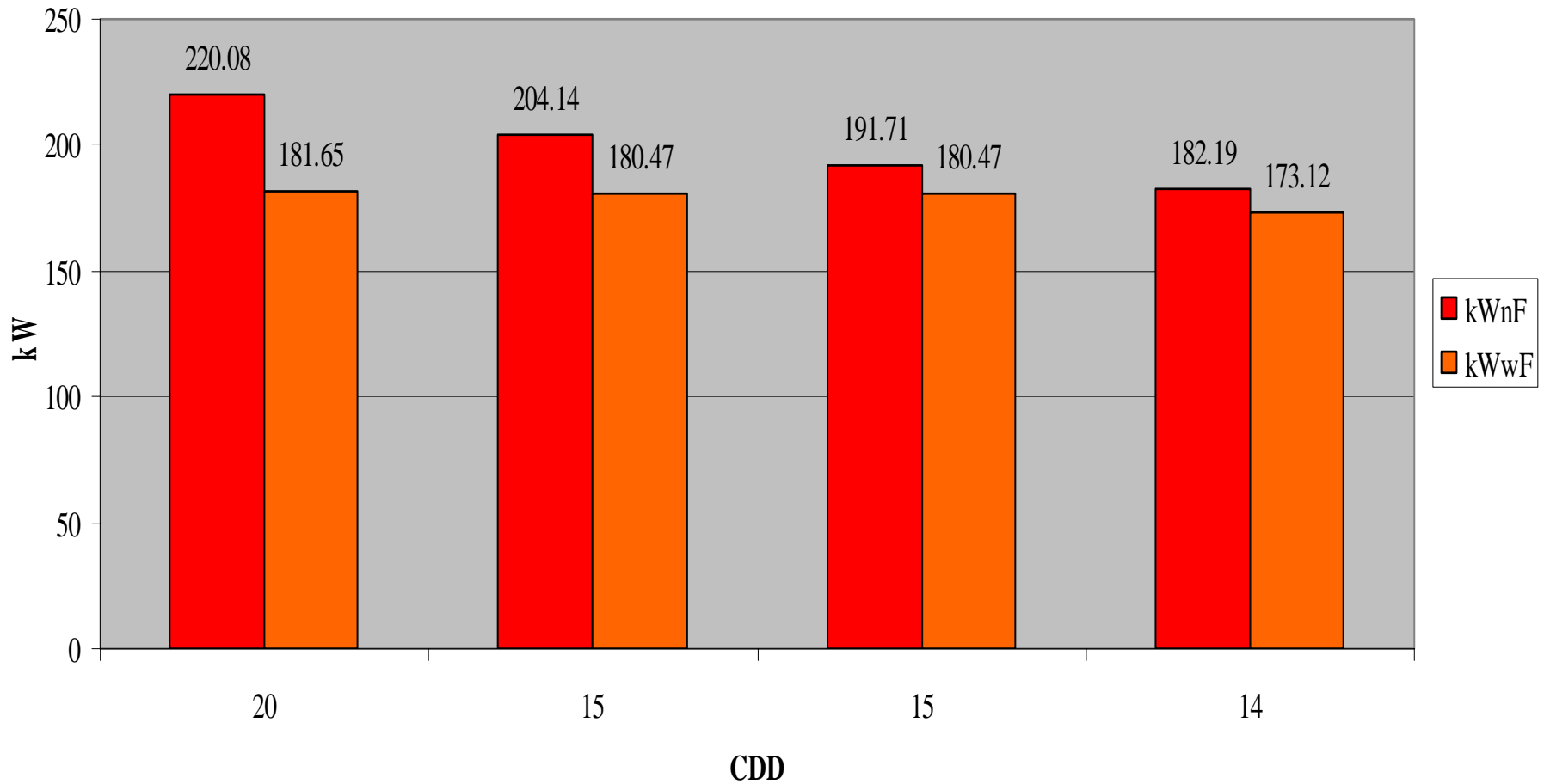
# The Chilling Filter Installed

- MLG&W North 10 T unit with Test Equipment Installed



# Field Testing Results of MLG&W 10T unit

kW Usage without and with Filters for equal CDD's





# The Chilling Filter

- Dirt buildup on coils is eliminated increasing reliability and efficiency



# The Chilling Filter

- Coil fouling is eliminated increasing reliability and efficiency



**December 2006 - Six Month Inspection  
Coils Spotless**

# The Chilling Filter Co.

- **Reliability and Conservation** are required even on peak demand days.
- On Peak demand days when generator backup is required the reduced kW requirement will lessen generator load while ensuring continued operation and increase reliability

# Reduced Energy Expenses

- Reduced kW Usage; Reduced kW Demand
- Reduced total energy taxes



# Reduced Energy Expenses

## Detailed Charges

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Amount Due: \$ 6,319.76

Due Date: July 6, 2006

Account Number: 00023-2104-1154-644

	Readings		Multiplier	Usage	Amount	Total
<b>GAS</b>	6/16/06	5/17/06				
G-7 Commercial Gas #060641	69279	69197	1	82	0.00	
G-7 Demand #060641	4	15	1	4	366.18	
Demand: Actual: 4 Billed: 560						366.18
<b>ELECTRIC</b>	6/16/06	5/17/06				
E-2 Commercial Electric #022283	29157	28922	200	47000	2,691.71	
E-2 Demand #022283	1.47	1.01	200	294.00	3,015.84	
Demand: Actual: 294 Billed: 294						5,707.55
<b>WATER</b>	6/16/06	5/17/06				
W-7 Commercial Water #03240660	702	668	1	34	48.61	48.61
<b>OTHER MLGW</b>	6/19/06	5/18/06				
<i>You are billed for Leased Outdoor Lighting service.            For maintenance, call 320-1498. For information on this service, call 528-4548.</i>						
Leased Outdoor Lighting					113.38	113.38
<b>Non-MLGW</b>	6/19/06	5/18/06				
Sewer Charge				34	22.25	22.25
<b>Non-MLGW</b>	6/19/06	5/18/06				
Mosquito/Rodent Control Fee					0.75	0.75
<b>Non-MLGW</b>	6/19/06	5/18/06				
Storm Water Fee			2.18	28.000	61.04	61.04

Total Amount Due by July 6, 2006  
 If received later, amount due is \$6,413.25

\$ 6,319.76

# Reduced Energy Expenses

## Detailed Charges

Page 2 of 2

Amount Due: \$ 5,049.65

Due Date: July 6, 2007

Account Number: 00023-2104-1154-644

	Readings		Multiplier	Usage	Amount	Total
<b>GAS</b>						
G-7 Commercial Gas #060641	6/6/07	5/17/07				
G-7 Demand #060641	78461	78461	1	0	0.00	
Demand: Actual: 1 Billed: 204	0	13	1	0	133.40	
G-7 Commercial Gas #402385	6/18/07	6/6/07				
G-7 Demand #402385	26	0	1	26		
	6/18/07	6/6/07				
	1	0	1	1		133.40
<b>ELECTRIC</b>						
E-2 Commercial Electric #065362	6/18/07	5/17/07				
includes TVA Fuel Cost Adjustment of 0.0008800/kwh	666	439	200	45400	2,562.08	
E-2 Demand #065362	1.13	1.04	200	226.00	2,097.92	
Demand: Actual: 226 Billed: 226						4,660.00
<b>WATER</b>						
W-7 Commercial Water #03240660	6/18/07	5/17/07				
	1019	979	1	40	56.02	56.02
<b>OTHER MLGW</b>						
Leased Outdoor Lighting	6/19/07	5/21/07				
includes TVA Fuel Cost Adjustment of 0.0008900 /kwh					112.26	
You are billed for Leased Outdoor Lighting service.						
For maintenance, call 320-1498. For information on this service, call 528-4548.						112.26
<b>City of Memphis</b>						
Sewer Charge - For inquiries, call (901) 576-6757.	6/19/07	5/21/07				
				40	26.18	26.18
<b>Shelby County</b>						
Mosquito/Rodent Control Fee - For inquiries, call (901) 323-8403.	6/19/07	5/21/07				
					0.75	0.75
<b>City of Memphis</b>						
Storm Water Fee - For inquiries, call (901) 576-4349.	6/19/07	5/21/07				
			2.18	28.000	61.04	61.04

Total Amount Due by July 6, 2007  
If received later, amount due is \$5,121.33

\$ 5,049.65

# Reduced Energy Expenses

## *Total Savings*

*June Electrical Bill 2006*

*June Electrical Bill 2007*

Electrical Costs

\$5,707.55

\$4,660.00 \*

Reading Dates

5-17 thru 6-16

5-17 thru 6-18

Water Costs

\$48.61

\$56.02

Total CDD's for  
Billing Period

440

435

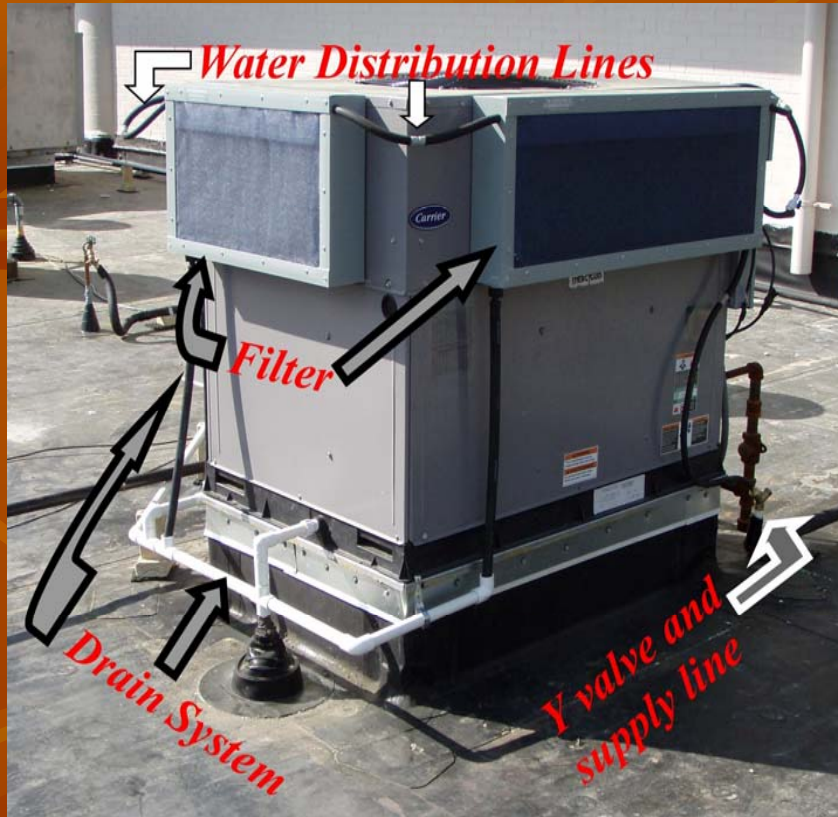
\*

2007 had an additional charge for TVA fuel adjustment

Savings

\$1,040.14

# Chilling Filter Components



# Chilling Filter Components



# Return on Investment

- Varies from 11 to 24 months based on:
  - Electrical Rates
  - Equipment Conditions
  - Area of Country
  - Complexity and Customization of Filter Equipment

# Chilling Filters Commitments

- Committed to NON-CHEMICAL Solutions
- Reducing the Carbon Footprint
- Reducing Energy Consumption
- Increasing System Reliability
- Committed to Customer Service