



POWRMATIC®

VICKSBURG, MS - HEATING AND COOLING PROJECT

PROJECT OBJECTIVE

POWRMATIC WAS BROUGHT IN ON THIS PROJECT AS AN ALTERNATE DESIGN TO HELP SATISFY THE DESIGN NEEDS OF THIS MANUFACTURING FACILITY AND HELP ACQUIRE THE PROJECT.

THE GOALS OF THIS PROJECT ARE TO MEET THE DESIGN CRITERIA, SATISFY THE END USERS EXPECTATIONS OF EVEN TEMPERATURES, LOWER THE INSTALLATION PRICE, AND LOWER ENERGY USAGE.

WITH THIS BEING SAID, THE FACILITY HAS A 32,000 CFM DEMAND OF PROCESS EXHAUST. THE OUTSIDE AIR NEEDS TO BE INTRODUCED INTO THE FACILITY WHILE MAINTAINING EVEN TEMPERATURES OF 60°F IN THE WINTER MONTHS AND 80°F IN THE SUMMER MONTHS. ALSO, THE ROOF CANNOT SUPPORT ANY WEIGHT SO ALL EQUIPMENT MUST BE GROUND MOUNTED.

EXISTING CONCRETE BUILDING RETROFIT SPECIFICATIONS:

- 420' X 640' X 25' to 32'
268,800 Sq. Ft.
- R-10 Roof
- Uninsulated Tilt Wall
- 32,000 CFM/Process Exhaust
- 850 Tons DX
Maintains 80°F
- Natural Gas Heat
+ 21°F to 60°F



COMPARISON



VS



POWRMATIC 7 - 120 TONS AIR TURNOVER UNITS

THE COMPETITION 34 - 25 TONS PACKAGE UNITS

NUMBER OF CONNECTIONS

7 - OUTSIDE AIR CONNECTIONS
2 - SIDE WALL VENT OPENINGS
68 - WALL PENETRATIONS (PLUS DUCTWORK)
27 LESS POINTS OF CONTACT (ELECTRICAL, CONTROLS, MAINTENANCE, ETC.), 32 LESS GAS CONNECTIONS, AND NO ROOF PENETRATIONS

BRAKE HORSEPOWER

107.1 - TOTAL BRAKE HORSEPOWER
235.82 - TOTAL BRAKE HORSEPOWER
TOTAL POWRMATIC BHP SAVINGS = 128.72

ELECTRICAL SAVINGS

\$82,341 - TOTAL COST OF OPERATION (PER YEAR)
(kW AT \$0.10 PER HOUR)
\$181,303 - TOTAL COST OF OPERATION (PER YEAR)
(kW AT \$0.10 PER HOUR)
TOTAL POWRMATIC SAVINGS PER YEAR = \$98,962

HEATING SAVINGS

1,247 MCF - FROM THE 7 POWRMATIC ATUS
\$9,976 - FOR AN AVERAGE DEGREE DAY/YEAR
(AT \$8.00 PER MCF)
3,604 MCF - FROM THE 34 PACKAGED UNITS
\$28,832 - FOR AN AVERAGE DEGREE DAY/YEAR
(AT \$8.00 PER MCF)
TOTAL POWRMATIC MCF SAVINGS = 2,357 MCF , TOTAL POWRMATIC SAVINGS PER YEAR = \$18,856

ENERGY

\$92,317 - OVERALL YEARLY ENERGY COST
\$210,135 - OVERALL YEARLY ENERGY COST
TOTAL POWRMATIC SAVINGS PER YEAR = \$117,818

PRICING

AT FIRST GLANCE, THE SEVEN POWRMATIC ATU'S COST ABOUT \$ 50,000 MORE THAN THE 34 PACKAGE UNITS BUT AFTER A REVIEW OF OTHER ASSOCIATED COST, THE ATU'S WILL HAVE THE LOWEST INSTALLED PRICE. THE PACKAGE UNITS REQUIRE MORE AMPS AT MORE LOCATIONS. THERE IS ALSO MORE NATURAL GAS PIPING AND MORE CONTROL COSTS. THE PACKAGE UNITS ALSO REQUIRE TWO BUILDING PENETRATIONS PER UNIT, DUCTED WORK, AND SUPPLY AND RETURN GRILLS. SINCE THE WALLS ARE CONCRETE, THE 68 OPENINGS (3' X 4') FOR THE SUPPLY AND RETURN AIR WILL ALL HAVE TO BE SAW CUT.



SUMMARY OF SAVINGS

- DUE TO THE EXTRA COSTS ASSOCIATED WITH THE INSTALLATION OF THE 34 PACKAGE UNITS (ELECTRICAL, CONTROLS, GAS PIPING, CONCRETE CUTTING, ETC.), THE POWRMATIC ATU'S INSTALLED PRICE WAS LESS THAN THE PACKAGE UNITS INSTALLED PRICE.
- THE POWRMATIC ATU'S WILL PROVIDE A YEARLY SAVINGS OF **\$117,818**.
- EVERY **10 YEARS** OF OPERATION WILL SAVE THIS COMPANY **\$1,178,180**.



SIGNIFICANTLY REDUCED HORSEPOWER

NO DUCT WORK



LESS POINTS OF CONNECTION (GAS, ELECTRIC, CONTROLS, ETC.)

50% TO 70% REDUCTION IN HEATING COSTS



EVEN TEMPERATURES

LESS WALL PENETRATIONS



NO ADDED WEIGHT TO ROOF STRUCTURE

ALL MAINTENANCE PERFORMED ON GROUND LEVEL WITH LESS EQUIPMENT



WARRANTY 30/5/2

NO ROOF PENETRATIONS

HUGE ENERGY SAVINGS

POWRMATIC® THE STANDARD OF EXCELLENCE IN HEATING, COOLING AND AIR EQUIPMENT

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