

HOUSTON ASTROS GUNNING FOR NEXT WORLD SERIES FROM MINUTE MAID PARK

Since the Houston Astros and New York Yankees opened Minute Maid Park in exhibition play on March 30, 2000, millions of fans have passed through Union Station and into the park. Each year, more than 40,000 people per game can sit in the high-tech, uniquely designed park and enjoy the Astros.

One of the park's most interesting features is not on the field.



The roof at Minute Maid Park retracts completely off the ballpark to reveal the

largest open area of any retractable roofed baseball stadium in existence today. A total of 50,000 square feet of glass in the west wall of the retractable roof give fans a view of the Houston skyline, even when the roof is in the closed position.

Even with the stadium open to the sky, Entergy Thermal is able to provide air conditioning for Astros fans through its nearby 33,000 ton water plant. This plant, built in 2000 with Minute Maid Park as its anchor customer, has provided chilled water for hundreds of Astros games over the last six seasons.

The stadium's construction has won several awards, including two for its engineering. In 2000, Minute Maid Park was named the Most Outstanding Civil Engineering Project by the Texas Section of the American Society of Civil

Engineers (ASCE), the professional organization representing the vast majority of civil engineers. The same year, it also received the National Honor Award for Engineering Excellence from the American Consulting Engineers Council (ACEC), stamping Minute Maid Park as one of the Top 24 engineering projects among all buildings and civil works projects nationally.

With visually redirected seats and baseball-only sightlines, Astros fans are as close to the action as any big league baseball. Seats along the right and left field foul lines are only five feet from the line, while the nearest spectator along the first and third base lines can be as close as 43 feet to the game.

But without the team, Minute Maid Park wouldn't exist. The Astros organization expects another strong season in 2006. "Coming off the World Series is an



exciting start for us, and there is tremendous energy behind the team both in-house and from the community. We've added Preston Wilson to our roster which, combined with Lance Berkman, Morgan Ensberg and Jason Lane, should give us a potent lineup," says Astros President of Business Operations Pam Gardner. "We don't like to get too big for our britches, but we

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Entergy Solutions manages all HVAC for Houston's three airports.

Bush Intercontinental is Houston's largest airport that covers 10,000 acres and moves nearly 40 million people annually. It was built in 1969 and is located on the north side of Houston and is the ninth busiest airport in the US for total passenger movement. Currently, there are 5 terminals and the FIS building which processes international arrivals.

We are also responsible for the support buildings that include fire stations, emer-



gency rescue buildings and utility buildings for security. The central plant at Bush

Intercontinental has a total cooling potential of 22,000 tons and a total boiler output of 172,000 pounds at 210 degrees.

Entergy has a staff of 28 personnel consisting of mechanics, operators and administrative assistants to help manage the contract.



Bush is operated 24 hours a day with three shifts.

Hobby Airport is located in the southern part of Houston. It's Houston's oldest and second largest airport and moves nearly 10 million people annually. It was built in 1937.

Hobby has 3 terminals and numerous support buildings that Entergy maintains. The central plant

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Gunning for World Series

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are cautiously optimistic that we'll have a shot at the World Series again this year."



Since the team's stellar performance last year, the Astros' popularity has soared. As a consequence, the Astros in Action Foundation's upcoming events are expected to be extremely successful

in raising funds for community enhancement programs.

The foundation held two fundraisers this past May.

The Houston Astros Alumni Golf Classic, presented by Hewlett Packard, was held Thursday, May 18, 2006 at the Wildcat Golf Club. Each foursome included an Astros VIP who may be a former or current player, an Astros broadcaster, or an Astros front office staff member.

The Houston Astros 4th Annual Race for the Pennant was held Saturday, May 27, 2006. This 5K run/walk marks the close of Houston's road race season. The event, which passes the Entergy Thermal plant, also features the Junction Jack's Kids Fun Run. Each participant received an official race t-shirt and two free tickets to an Astros home game.

Managing Houston's Airports

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consists of 4,000 total tons for cooling and has a staff of 6 that operate on two shifts.



Ellington Field is located south of Hobby and is used primarily as a light private airport but also is home to training for NASA pilots, US Coast Guard and was until recently, home to the

147th Fighter Wing of the National Guard. In terms of sheer size in acreage, Ellington is the largest airport and is the designated landing spot for Air Force One when the President visits. The staff at Hobby Airport provide service to Ellington Field and there is no on site staff.

Entergy has a five year contract with the city of Houston to operate the central plants, maintain tenant and passenger comfort, and perform preventative maintenance on air handlers and associated appurtenances.

Under this contract, Entergy has the opportunity to provide input on construction projects, energy management programs and long range planning for HAS. The current contract with the city runs out in September of 2006 and Entergy will be among the bidders later this year.



New Chillers Installed

In New Orleans, we began installation and construction of two new 2000 ton York YK centrifugal chillers last week. With this addition to the plant, we will have 15,000 tons bolted to the floor and available for operation. This gets us back to original design of plus one redundancy.

The new chillers will be installed on the even side in slots 2 and 4. Up until this new addition 90% of our load has relied on the odd side electrical system. We will have a bit more reliability having the load divided up between

the two electrical feeds here at the plant.

We are also preparing for installation of 6 Evapco cooling towers that will complete the total build out of cooling towers for the even side equipment. This will lower our cost for expansion in the future when we'll be able to add additional chillers and related pumps without the expense of more cooling towers. It will also increase redundancy and allow us to get maintenance done during regular operating hours lowering overtime labor cost.

Plate Heat Exchangers - How they work

When a package of plates are pressed together, the holes at the corners form continuous tunnels or manifolds, leading the media (which participate in the heat transfer process) from the inlets into the plate package, where they are distributed into the narrow passages between the plates.

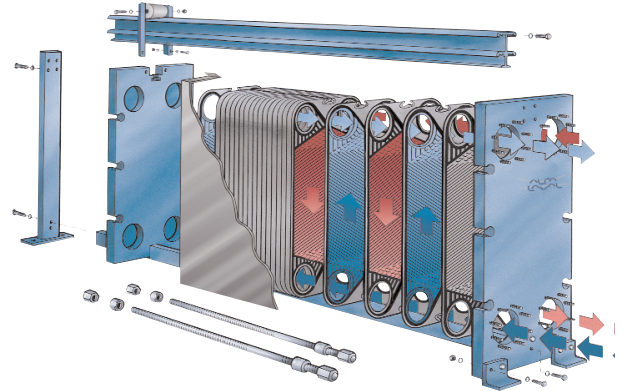
Because of the gasket arrangement on the plates, the two liquids enter alternate passages, e.g. the warm liquid between even number passages, and cold liquid between odd number passages.

Thus the media are separated by a thin metal wall. In most cases the liquids flow in opposite directions.

During the passage through the apparatus, the warmer medium will give some of its heat energy to the thin wall, which instantly loses it again to the colder medium on the other side.

The warmer medium drops in temperature, while the colder one is heated up.

Finally, the media are led into similar hole-tunnels at the other end of the plates and discharged from the heat exchanger.



Flow pattern in a plate heat exchanger.
Courtesy of Alfa Laval Inc.

THE MAIN COMPONENTS OF THE PLATE HEAT EXCHANGER AND THEIR FUNCTIONS.

In Plate Heat Exchangers, heat is transferred from one medium to another through thin metal plates which have been pressed into a very special pattern.

1. FRAME PLATE

2. SUPPORT COLUMN - The two bars are suspended between the FRAME PLATE-to which in most cases the piping is connected, and a SUPPORT COLUMN.

3. CONNECTIONS - Holes matching the piping lead through the frame plate, permitting the media to enter into the heat exchanger.

Threaded studs around the holes secure the pipes to the apparatus.

Depending on the application, metallic or rubber-type LININGS may protect the edges of the holes against corrosion.

4. CARRYING BAR

5. GUIDING BAR - The plates hang from a CARRYING BAR and are kept in line by a GUIDING BAR at the lower end.

6. TIGHTENING BOLTS - With the

package of thin plates hanging between the frame plate and the pressure plate, a number of

TIGHTENING BOLTS are used to press the thin plates together, to bring them into metallic contact, and to pressure the gaskets, enough to seal off the narrow passages which have now been formed between the plates.

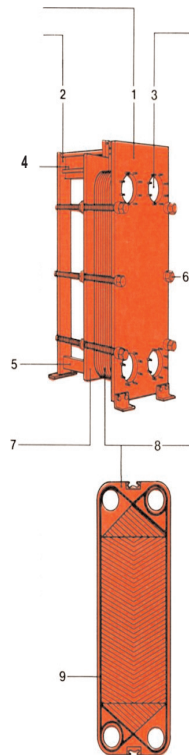
7. PRESSURE PLATE - A steel plate called the pressure plate is also hung on the carrier bar and is moveable, as are the heat transfer plates. In some cases pipes may be connected to the pressure plate.

8. CHANNEL PLATES

9. GASKET - These plates are called CHANNEL PLATES. A groove along the rim of the plate and around the ports hold a GASKET, usually made of a rubber-type material.

Heat is transferred through the surface which is contained by the gasket, except for some small areas near the corners.

The number of plates in the package of your heat exchanger is determined by the size of the heat transfer required.



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