YORK®

ES Service Information

File In/With: N/A	SI0077
	New 12-03
Equipment Affected: 2-Stage YPC Absorption Chillers	
Solution-to-Solution Heat Exchanger End Sheet Deflection	

General

In some instances, YPC 2-stage chillers have experienced cracked welds on the solution-to-solution heat exchanger end plates that are opposite the piping connections. This can result in air leaks into the heat exchanger. The cracks occur over time due to endplate deflection as a result of fluid pressure produced by the solution pump. After the pump is turned on and the solution pressure increases, the end plate on the heat exchanger can deflect in some circumstances. When the pump is turned off, the end plate relaxes to its unpressurized position. If the pump cycles frequently and the deflection occurs too often, weld cracks can occur where the end plates are welded to the heat exchanger. If the amount of deflection is measured, it can be determined if it is excessive.

If the chiller was built before January 2003, YORK recommends checking the deflection of the solution-to-solution heat exchanger end plates (hi-temp & low-temp) to determine if the component is susceptible to weld fatigue cracking.

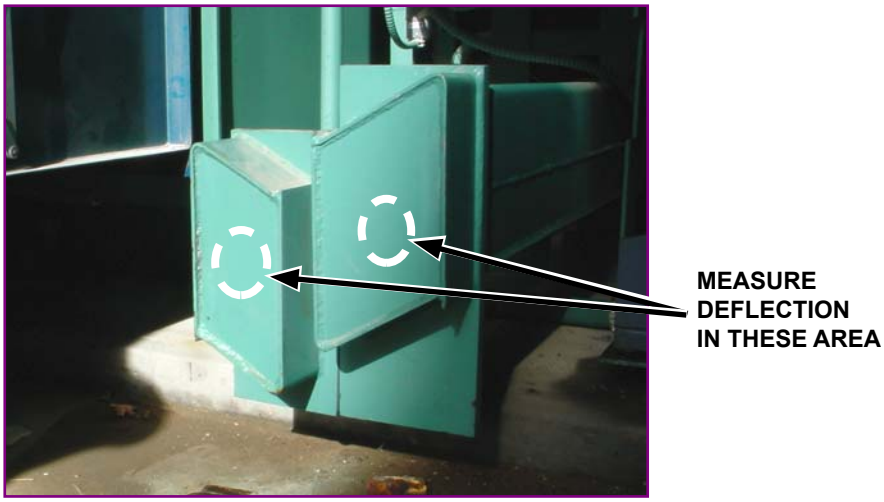
Procedure

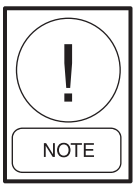
Tools required for this check are:

- Dial indicator with a minimum .200 inches travel in .001-inch increments.
- Magnetic indicator base.

Measurement process:

1. This procedure requires the solution pump to be briefly turned "on" and "off". This must be performed when the unit is shutdown. This test cannot be performed with the chiller operating. If the unit is in operation, manually put the unit through a complete dilution cycle and let the unit shutdown.
2. With the dial indicator securely fastened to the base, attach the assembly to the unit where the indicator needle can reach the center of the solution-to-solution heat exchanger end plate on the end opposite the heat exchanger valves. (See photo below)





Both the hi-temp and low-temp solution-to-solution heat exchanger end plates require checking.

3. With the panel in the *service mode*, press and hold the PUMP STATUS key until the panel display reads *Solution pump – OFF*. Press and release the MANUAL PUMP key, this will turn the solution pump on.
4. Observe the indicator and record the amount of travel that the solution-to-solution heat exchanger end plate moved.
5. Turn the solution pump off by pressing the MANUAL PUMP key again.
6. Repeat this process several times to verify the amount of travel.
7. Re-position the dial indicator and base so that the other solution-to-solution heat exchanger end plate can be measured.
8. Repeat steps 3 to 6 for the other heat exchanger end plate.

Report test results to YORK Product Service, York, PA. Deflection tolerances will be determined on a unit to unit basis due to invididual model variations.