case study

LAKOS Separator Replaces Strainer for Glass Manufacturer

Eliminated Excessive Operating Costs

Application: LAKOS LTS Separator
Solids: Sand, grit and scale
Liquid: Cooling Water

Problem: Full-stream cooling water supply from a ground-level tower to the glass processing needs of Guardian Industries in Kingsburg, California was filtered for three years by a huge 125-micron automatic strainer. Suffering excessive water loss and make-up water costs due to the volume and frequency of backwashing (see chart on back), LAKOS was called in to help "reclaim" the backwash water.

Solution: "Will it work?" was confirmed quickly with a LAKOS Portable Test Rig. In fact, the separator worked so convincingly, the discussion quickly turned to LAKOS as an alternative to the strainer. Not long after, a LAKOS LTS Separator was handling the system's full flow of more than 5,000 US gpm (1,130 m3/hr) purging briefly and only once every 40 hours and saving Guardian over 370,000 gallons of water every week (see chart on back).

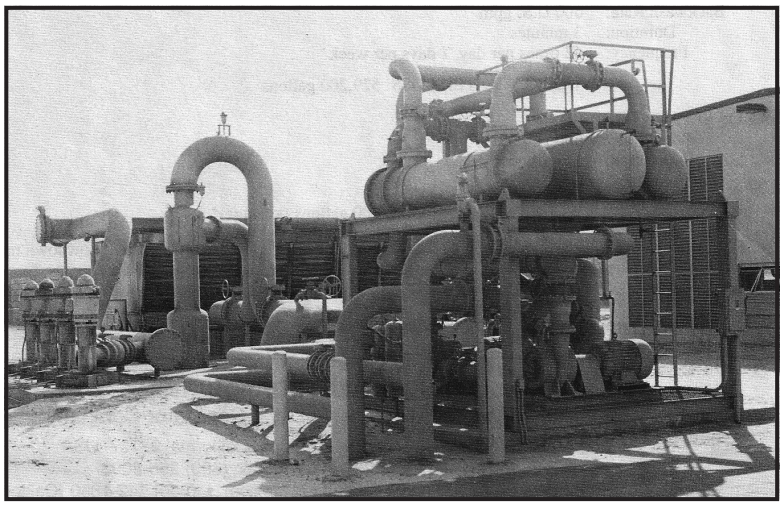
PAYBACK SUMMARY

LAKOS Separators are installed to save money ... and the application at Guardian Industries is a clear illustration of the significant potential and the many areas where savings can be achieved.

Reduced Water Loss:	$1,900
Reduced Chemical Make-up:	5,000
Reduced Electrical/Pumping Costs:	2,000
Reduced Maintenance:	5,600

TOTAL ANNUAL SAVINGS $14,500

Your LAKOS representative can help you determine the payback potential with your system. Ask for details.

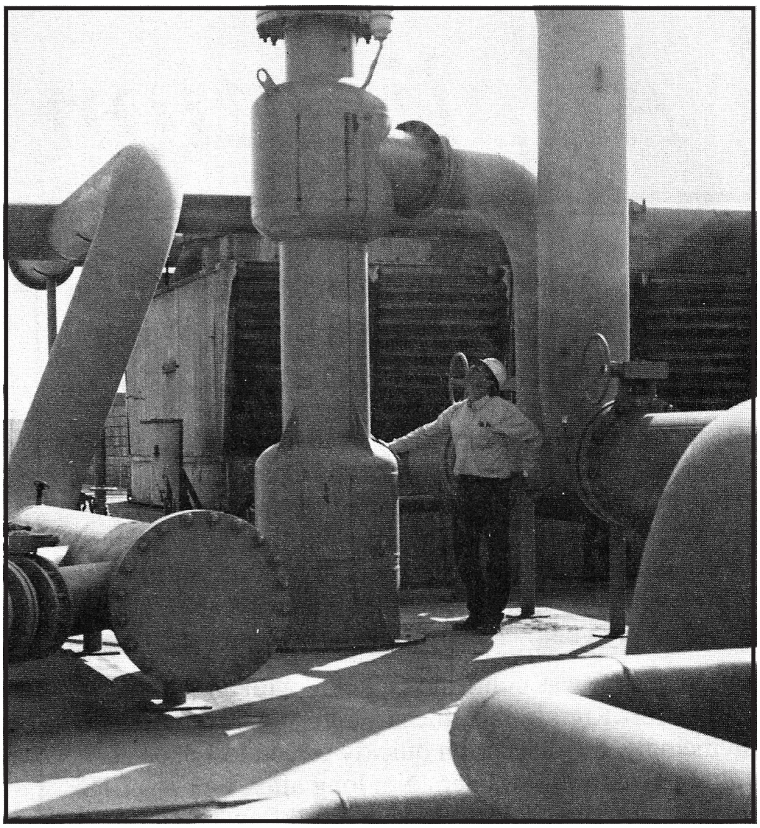


Guardians heat exchanger system (foreground, right requires much less attention nowadays, thanks to the full-stream protection of a LAKOS Separator (LTS vertical model), which removes sand, grit & scale from their cooling tower water (background).

(Continued on reverse)

Results: The water savings, given that Guardian spends approximately $.10 for every 1,000 gallons used, translates to an immediate money savings of more than $1,900 annually. Water treatment savings, (due to reduced make-up water needs and the reduction of solids in the system) have also become significant, saving Guardian $5,000 annually in chemicals.

No less incredible is the fact that LAKOS simply out-performs the strainer, removing an even greater volume of even finer particles. (Independent testing reports 98% efficiency of 74 micron/200 mesh sand.) Additionally, Guardian reports annual savings of $2,000 for reduced electrical/pumping charges and $5,600 in reduced maintenance, cleaning of heat exchangers and system reworking. In essence, the LAKOS Separator far exceeded Guardian's original expectations and has dramatically reduced their operating costs.



This vertical model LAKOS LTS Separator is so trouble free, plant spokesman Fritz Gaudian says, "We sometimes walk by just to see if it's still there."

WATER LOSS COMPARISON

STRAINER

Backwash Rate:	600 U.S. gpm
Duration:	3 minutes
Frequency:	42 times per day, 7 days per week

WEEKLY WATER LOSS: 529,200 gallons

LAKOS SEPARATOR

Purge Rate:	600 U.S. gpm
Duration:	12 seconds
Frequency:	Once every 2 days

WEEKLY WATER LOSS: 300 gallons (average)*

*NOTE: The excessive water loss caused by the strainer far exceeded Guardian's desired blowdown rate to maintain a specific "water hardness level." With the LAKOS Separator, Guardian instead chose to perform a supplementary blowdown of 157,250 gallons per week to maintain that water hardness at an acceptable level.

The net savings of water is 371,650 gallons per week!

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