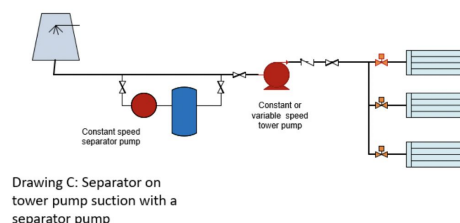


Monday, March 2, 2020

Tower/Condenser Water Systems – Side Stream Separator Systems

Monday Morning Minutes | by Norm Hall, March 2, 2020

When there is a concern about tower basin sediment build-up, there are several options. Traditionally, valuable maintenance personnel hours may be used shoveling the debris from the tower basin. Today, I offer two solutions to significantly reduce that maintenance requirement.



Side Stream Tower Basin Separator Packages

One option for removing sand and sediment from tower basins is to mount a separator so it circulates the tower basin. This side arm circulator will pull the water from the basin and put it through the separator and back to the basin.

The systems include the pump, valves, and controls. The system may also have a closed recovery system with a discharge filter to reclaim the water. We recommend the closed recovery model since it promotes water conservation.



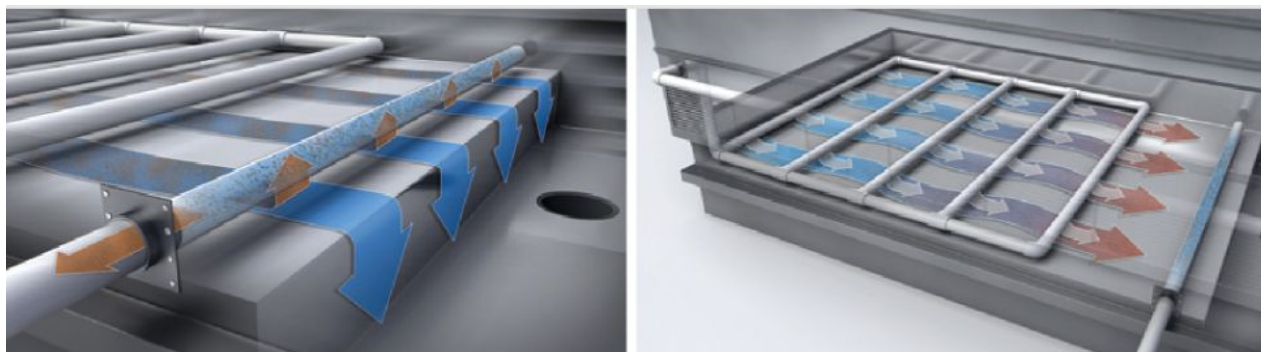
The systems may even include a Wave2™ chemical-free water treatment system.



GRISWOLD WATER SYSTEMS MODEL CSS SEPARATOR SYSTEM AND MODEL CSR CLOSED RECOVERY SEPARATOR SYSTEM.

Tower Basin Sweeper System

The separator system is only one part of the effective removal of particulate. The tower basin must have a piping array to pull the heavy sand and debris into the pipe. Griswold uses a **CleanSweep™ Centrifugal Separator** System to achieve the high efficiency required. The traditional system uses a system of nozzles and eductors piped into the basin. The difference between the traditional sweeper system and the Griswold CleanSweep is all about energy. The traditional nozzles and eductor system require a pump with 65 to 80 feet of head. The CleanSweep operates with a total pump head of 40 feet; 50% energy savings!



Selecting the Tower Basin Sediment Separator System

Step 1: Decide whether you wish to use a system with an automatic blowdown to drain (model CSS) or the water-conserving recovery system (CSR)

Step 2: Multiply the tower flow rate by 10%

Step 3: Multiply the area of the basin without the trough or pump pit times 1.5. This number is the minimum GPM suggested

Step 3: Select a flow rate from the charts below which is at or above the largest of the GPM determined in steps 2 & 3

Step 4: Choose the pump head required. If you are using the traditional tower sweeper system with nozzles and eductors, **select 80 feet**. If you are using the Griswold CleanSweep™ basin piping system, **use 40 feet** (both selections allow about 3 feet of friction loss for the piping to and from the tower to the separator system). Contact your representative if more connecting piping friction loss is anticipated.

Step 5: Choose model from chart below

Griswold CSS auto purge to drain separator systems		
GPM	LOW HEAD MODEL ¹	HIGH HEAD MODEL ²
30	CSS-101-LH	CSS-101-HH
60	CSS-151-LH	CSS-151-HH
115	CSS-201-LH	CSS-201-HH
160	CSS-251-LH	CSS-251-HH
200	CSS-300-LH	CSS-300-HH
340	CSS-400-LH	CSS-400-HH
470	CSS-401-LH	CSS-401-HH
525	CSS-500-LH	CSS-500-HH
825	CSS-600-LH	CSS-600-HH
1100	CSS-601-LH	CSS-601-HH
1400	CSS-800-LH	CSS-800-HH
1880	CSS-801-LH	CSS-801-HH
2000	CSS-1000-LH	CSS-1000-HH
2900	CSS-1200-LH	CSS-1200-HH
3700	CSS-1201-LH	CSS-1201-HH
Note ¹ Low head model 40' pump head Note ² High head model 80' pump head		

Griswold CSR closed recovery separator systems		
GPM	LOW HEAD MODEL ¹	HIGH HEAD MODEL ²
30	CSR-101-LH	CSR-101-HH
60	CSR-151-LH	CSR-151-HH
115	CSR-201-LH	CSR-201-HH
160	CSR-251-LH	CSR-251-HH
200	CSR-300-LH	CSR-300-HH
340	CSR-400-LH	CSR-400-HH
470	CSR-401-LH	CSR-401-HH
525	CSR-500-LH	CSR-500-HH
825	CSR-600-LH	CSR-600-HH
1100	CSR-601-LH	CSR-601-HH
1400	CSR-800-LH	CSR-800-HH
1880	CSR-801-LH	CSR-801-HH
2000	CSR-1000-LH	CSR-1000-HH
2900	CSR-1200-LH	CSR-1200-HH
3700	CSR-1201-LH	CSR-1201-HH
Note ¹ Low head model 40' pump head Note ² High head model 80' pump head		

Give Deppmann or your local Griswold water Systems representative a call to verify selection, provide a detail, and obtain a specification of this great solution for keeping your cooling tower system clean and operating efficiently.

In addition to dirt in the basins, cooling towers may sometimes get a great deal of press when legionella health issues are being discussed. Next R. L. Deppmann Monday Morning Minutes will offer a different cooling tower basin design to reduce the risk of legionella growth as well as efficient particulate separation.

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