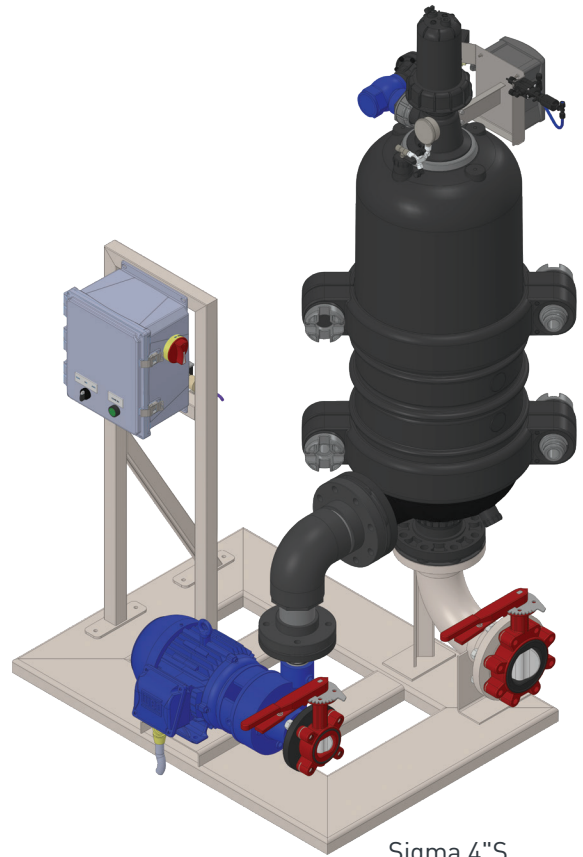


Sigma: TCS Series Side Stream Filter System

Is your Separator really working?

The new Tower Clean Sigma (TCS) side stream filter systems, with 50 micron screens, reliably remove the bulk of your solids volume, reducing cooling tower turnover, protecting equipment and improving tower performance.



Sigma 4" S

Features and Benefits:

- Polymeric housing is corrosion-resistant
- Skid-mounted, packaged system
- Proprietary screen design and suction-scanning technology
- Large filtration area
- Does not rely on specific gravity of debris for efficient removal – screen filters are barrier filters
- Low water and energy consumption
- Compact design and small footprint
- Easy installation and maintenance

How the Tower Clean Sigma Filter Works

General

The Amiad TCS systems are automatic self-cleaning filters, with multiple screens, operated by a single hydraulic turbine mechanism, with capacity for flows of 200 to 700 gpm and supplied with 50 micron screens. Available in 4", 6" and 8" sizes. Greater flows can be achieved with multiple unit systems.

The Filtration Process

Raw water enters the system via the filter inlet and passes through the multiple screens in the filter housing. Clean water exits the system through the filter outlet. The gradual dirt buildup on the screens' inner surface causes a filter cake to develop, which increases the differential pressure across the filter system. A differential pressure (DP) switch measures this value, and the self-cleaning process is initiated when it reaches a pre-set value of 7.0 psi.

The Self-Cleaning Process

The self-cleaning cycle is initiated by one of the following:

1. DP switch signal
2. Timer signal (adjustable interval set at the controller)
3. Manual signal, triggered by a 3-way ball valve or by the electronic controller keypad

The flush water flows through the hydraulic turbine, causing the gearbox to rotate and the suction scanners to spin. The piston's pressure drop forces the suction scanners into an axial movement upward, ensuring that the nozzles sweep and clean the entire inner side of the fine screens. The turbine will return to its original position after the self-cleaning cycle is complete, preparing the unit for the next self-cleaning cycle.

The Control System

The Sigma operation and self-cleaning cycle is controlled and monitored by an electronic controller. With the AC electronic controller, the self-cleaning cycle is triggered by the DP switch, then the controller signals the exhaust valve to open with a solenoid controlled by hydraulic command. When the self-cleaning cycle is complete, the controller signals the exhaust valve to close and the filter system returns to filtration mode. The AC electronic controller also provides:

- System remote start/stop
- Flush in progress output
- System fault output

