

HST™ turbocompressor survives a category 4 hurricane

Victoria, Texas, is a small South Texas town of approx. 65'000 people just 30 miles inland from the Gulf of Mexico. This area is considered as humid subtropical, and the temperatures regularly exceed 100°F for the months of June through August. A record high temperature of 111°F was recorded in September 2000 and a record low of 9°F in December 1989. This location displays one of the most extreme temperature differentials in the United States. The HST high-speed blower was used in the new plant design which replaced an older two-stage trickling filter design in the Victoria WWTP.

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This is a great unit that the plant loves. We have plenty of capacity to run the plant at full load and have the turndown to run when the plant is on standby.

Curtis Davis, Chief Operator, Victoria WWTP



Sulzer HST 2500



HMI screen moved inside building

The challenge

The wastewater treatment plant was designed around using two larger centrifugal blowers, with the HST 2500 as trim and back-up, to meet the capacity of 4.4 MGD (million gallons per day), utilizing the activated sludge process with fine bubble diffused air. The plant typically treats 1.2-1.5 MGD with a maximum of 3 MGD. With this reduced influent, the city considered that the two larger centrifugal blowers were too big for the process demands and decided to utilize the Sulzer HST 2500 for continuous use. The Sulzer HST 2500 typically operates in the 45% to 85% performance range for 24 hours a day and 7 days a week. A reliable and dependable solution was needed.

The solution

In September 2016, the Victoria WWTP went online and shortly afterward the Sulzer HST 2500 became the primary blower for the plant. However, on August 25th, 2017 the Sulzer HST was put to a test that nobody could predict. Hurricane Harvey hit the area as a category 4 storm and the Sulzer HST was exposed to the full force of the storm for 24-36 hours. During the hurricane, the plant operators stayed in a nearby building for five days, riding out the storm. They expected the worst outcome for the HST turbocompressor, but once a Sulzer service technician arrived at the site, he had excellent news. The only part that was damaged was the keypad and HMI on the front of the unit, which was quickly replaced and moved inside the enclosed building.



Sulzer HST 2500 alongside existing centrifugal blowers

Customer benefit

- The Sulzer HST has proven highly reliable even in the worst conditions.
- Exceptional turndown range allow the plant to run the blower as the primary unit.
- The HST lowered the plant's energy costs.
- Substantially lower noise level in the building and outside of it.
- No vibration of the HST units.
- Almost maintenance-free operation except for replacing filters.
- Installed base of approximately 4'000 HST turbocompressors stands for long-term technical and application expertise.

Product data

HST turbocompressor 2500-U120-1-H-48	
Max. flow	1'850 SCFM
Max. pressure	10.5 psi
Elevation	75 ft.
Max. temperature	110°F
Max. RH	85%
Power supply	480/3/60

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