

TITAN™ Odor Control System



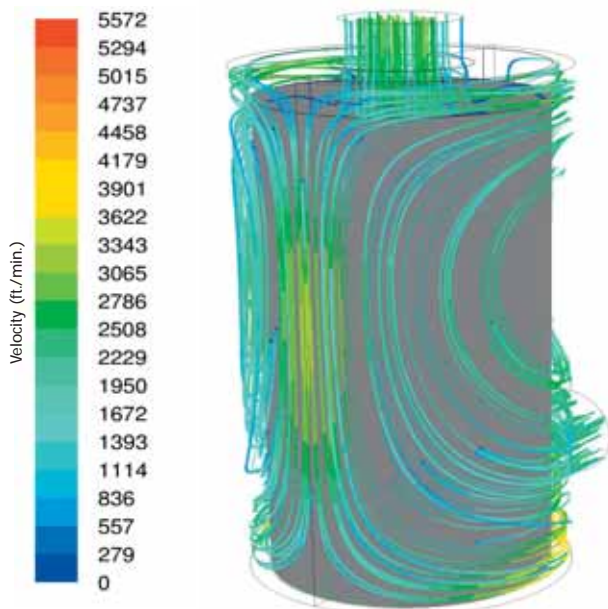
CALGON CARBON CORPORATION

The TITAN™ Advantage

Calgon Carbon Corporation's TITAN™ odor control system is a cost-effective alternative to conventional activated carbon adsorber designs. TITAN™ uses carbon in a radial flow system that is significantly smaller and less expensive than traditional deep bed adsorber designs.

TITAN™'s revolutionary airflow design allows the system to process odorous air at a much faster velocity than ordinary deep bed systems. TITAN™'s design allows it to be one-half to two-thirds the footprint of an equivalent deep bed system. The largest standard deep bed vessel (the 12' diameter dual bed) has a maximum air flow capacity of only 17,000 cfm, while the largest single TITAN™ vessel (the T120), not only has a smaller footprint, but can also treat 32,000 cfm, nearly double the amount of air as the older deep bed design!

While there are other radial flow odor control systems in the market, the TITAN™ design has been scrutinized so that you can be sure you are getting the performance you desire. The TITAN™ was designed using Computational Fluid Dynamics (CFD) to ensure that uniform air flow distribution can be achieved through the annular carbon bed. Calgon Carbon validated the CFD results by tracer study tests. The isometric view below shows the flow streamlines through the vessel. The color chart can be used to determine the velocity (ft./min.) of the streamlines. The CFD model shows that streamlines are evenly distributed, which indicates uniform flow distribution, hence uniform carbon use. CFD calculations also provide the design parameters which ensure proper contact time.



Typical CFD Output Diagram

Flexibility

With multiple odor control technologies, Calgon Carbon is uniquely capable of integrating two or more technologies to solve any odor control problem. For example, TITAN™ can be combined with a PHOENIX® system for the removal of odorous organic sulfur compounds at efficiencies greater than 99%.



Forsyth County, Georgia T70's

Applications

TITAN™ is ideally suited for municipal wastewater odor control applications such as pump stations and lift stations, as well as, wastewater treatment plant processes such as headworks, sludge thickeners, and belt press rooms. When filled with Calgon Carbon Corporation's patented CENTAUR® HSV water regenerable catalytic activated carbon, TITAN™ is effective against moderate levels of hydrogen sulfide (H₂S) as well as odorous organic sulfur compounds such as methyl mercaptans and dimethyl disulfide. For applications that do not involve H₂S, TITAN™ can be filled with one of our other activated carbons, such as OVC coconut or reactivated carbon.

TITAN™ is available in five models, T55, T70, T90, T110 and T120, which can be provided in a variety of heights for ultimate design flexibility.

For applications other than continuous operation at the design air flow rate, contact Calgon Carbon Corporation for review and recommendation.

Standard Features

The standard TITAN™ system comes complete with:

- PPL TITAN™ vessel with top access hatches
- Initial load of activated carbon
- FRP fan with 230-460V/3 phase/60 Hz TEFC motor
- Flow control damper
- Flexible connector
- Differential pressure indicator

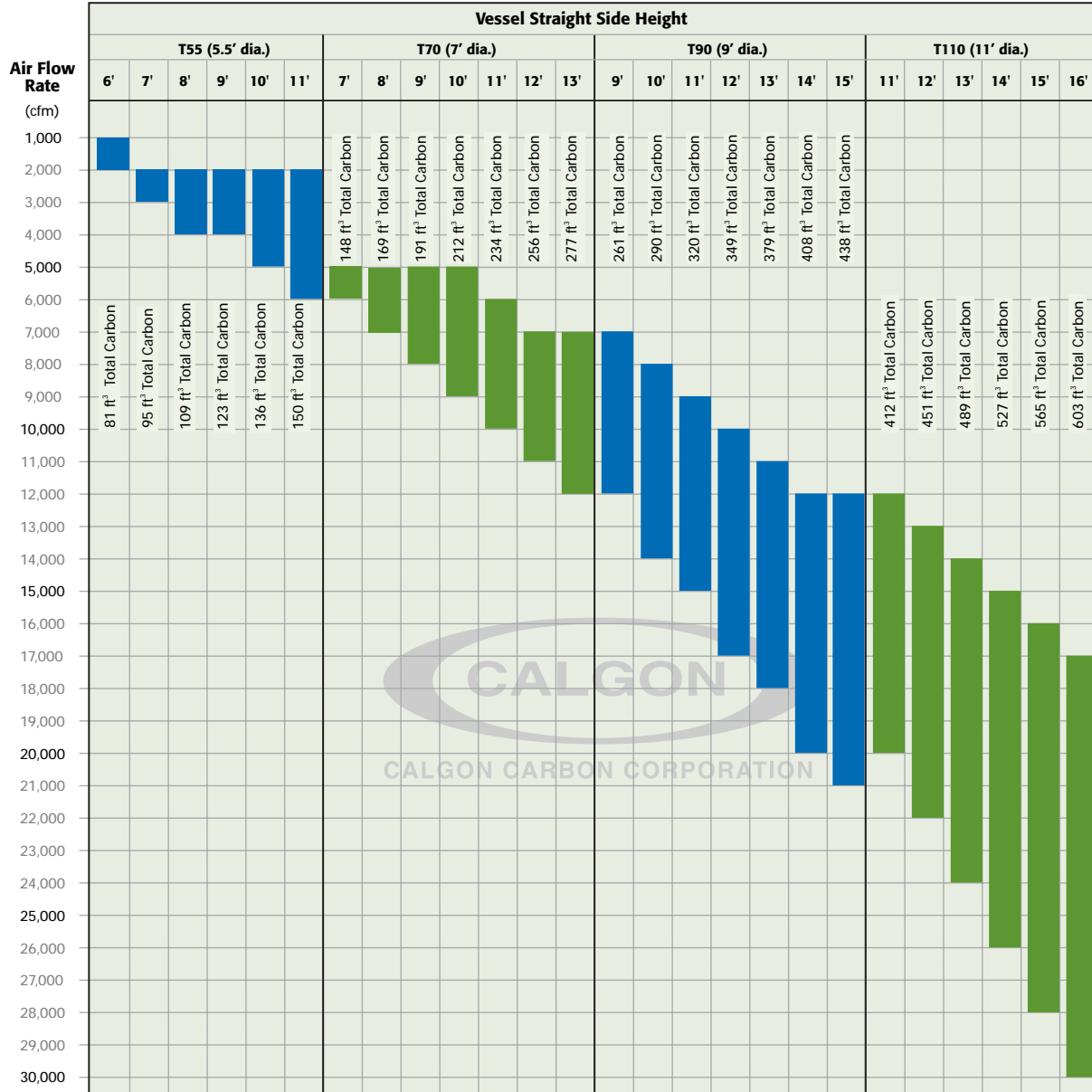
Optional Features

Some of the options available on a TITAN™ system are:

- Sound attenuation
- Grease filter/mist eliminator
- Fan motor starter/control panel
- Explosion proof electrical package for fan and controls
- Skid mounting (T55 only)
- Rain cap with bird screen



TITAN™ System Selection Guide



Notes: Each TITAN™ model (T55, T70, T90 & T110) can be manufactured at a variety of straight side vessel heights to accommodate spatial restrictions, pressure loss concerns, and optimize carbon capacity.
For more information on the T120's specifications, please contact your Calgon Carbon Technical Service Representative.



CALGON CARBON CORPORATION

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