

# Vantage™ CT Series Carbon Towers



## General Description

Vantage™ CT Series Carbon Towers by Siemens Water Technologies efficiently remove chlorine, chloramines and various organics, ensuring the highest product water quality for use in food and beverage, pharmaceutical and industrial applications. Vantage™ CT Series Carbon Towers are designed for applications requiring a carbon filter that uses hot water sanitization or steam

stripping/sanitization. The CT series includes four models with nominal flow rates between 118 and 302 gallons per minute (447–1,243LPM) at 1 gpm per ft<sup>3</sup>.

The four models are offered as either Plus or Deluxe models. The Plus model is designed and manufactured with 304L stainless steel on all wetted materials. The Deluxe model is designed and manufactured with 316L stainless steel on all wetted materials. Both models are controlled by a Siemens PLC and HMI.

## Standard Features

The following features have been incorporated into the standard Vantage™ CT Series Carbon Towers offering.

- Vessels are designed for hot water sanitization and steam vapor stripping/sanitization, bottom and/or top entry, for removing Volatile Organic Carbons (VOC's) such as trihalomethane
- Standard flow rates are based on 1 gpm/ft<sup>3</sup> forward flow and 10 gpm/ft<sup>2</sup> backwash flow (depending on carbon density and particle size)
- Advanced well screen designed internals for uniform distribution during draw off and backwashing
- Minimum carbon bed depth of five feet
- Freeboard above carbon greater than 50%
- Four operational modes: normal, backwash, steam stripping or hot water sanitization

## Standard System Options

- Four standard sized stainless steel vessels accommodate most flow requirements
- Interlock ability for down stream RO units
- Unit operation is managed by a Siemens PLC and includes an ethernet module for remote communications and a 6" color HMI

## Plus Model

- All wetted components are 304L stainless steel
- Vessel pressure rating is 100psig ASME
- Face Piping – Schedule 10 304L SS
- Internals – Schedule 40 304L SS

## Deluxe Model

- All wetted components are 316L stainless steel
- Vessel pressure rating is 100 psig ASME
- Face Piping – Schedule 10 316L SS
- Internals – Schedule 40 316L SS

## Carbon Tower Benefits

- Optimally designed for pretreatment applications requiring removal of odors, taste, chlorine, chloramines, and many types of organic contaminants
- Complete drainability using scavenger screens ensures continuous complete removal of condensate during steaming operations
- CT Series systems are easily integrated with Siemens proprietary Heat Optimized Technology (HOT) offering for hot water sanitization
- All external surfaces are glass-bead blasted for a uniform appearance
- All internal surfaces on the tank and face piping are passivated for prolonged longevity
- Internal distribution and collection laterals are fully passivated for maximum protection
- Stainless steel pneumatic tubing and fittings
- PLC/HMI controls maximize user flexibility in managing system operation
- All CT Series units are built in an ISO 9001 certified facility

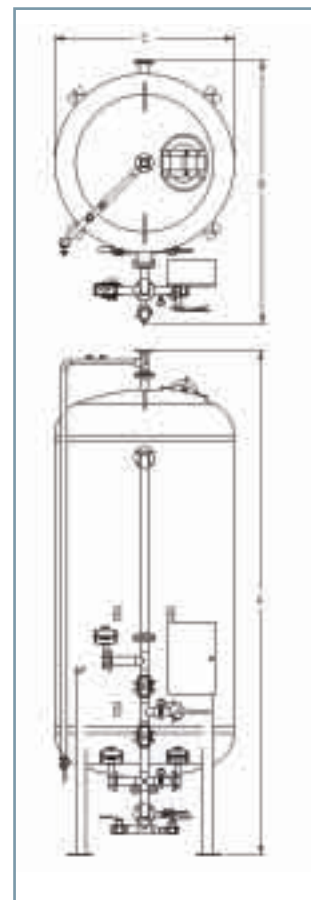
## Specifications

PARAMETER	MODEL NUMBER			
	CT100	CT150	CT200	CT300
Min. Flow Rate gpm (lpm)* (2 gpm/ft <sup>2</sup> )	40 (151)	57 (216)	77 (291)	101 (382)
Recommended Max Flow gpm (lpm)** (15 ft/sec pipe flow velocity)	198 (750)	309 (1170)	309 (1170)	537 (2033)
***Backwash Flow Rate: gpm (lpm)	<196 (741)	<283 (1071)	<385 (1457)	<503 (1904)
Media Volume: cu ft (cu meter)	118 (3.3)	170 (4.8)	231 (6.5)	302 (8.5)
Design Pressure: psi (bar)	100 (6.8) ASME Code			
Min. Feed Pressure: psi (bar)	25 (1.7)			
Max. Feed Pressure: psi (bar)	100 (6.8)			
Min. Feed Temperature: F (C)	40 (4) degrees			
Max. Feed Temperature: F (C)	140 (60) degrees			
Steam Pressure: psi (bar)	15 (1.0)			
Underdrain System	Well Screens			
Manway	Top 14" x 18" elliptical			
General Control Spec	Siemens PLC with HMI/with Ethernet			
Vessel Material	316L or 304L Stainless Steel			
Piping Material	316L or 304L Stainless Steel			
Electrical Requirement	120 VAC, 1 Ph, 60 Hz			
Process Valves	Butterfly, cast iron body with 316L Stainless Steel disc and stem, automated			
Steam-Vent Valves	Ball 316L Stainless Steel, manual operation			
Sample Valves	Ball 316L Stainless Steel, manual operation			
Pressure Gauges: psi (bar)	0-100 (0-6.9)			
Electrical Enclosure	NEMA 4X			

\*This equates to 0.33 gpm/ft<sup>3</sup>. Contact time is approximately 22-23 minutes.

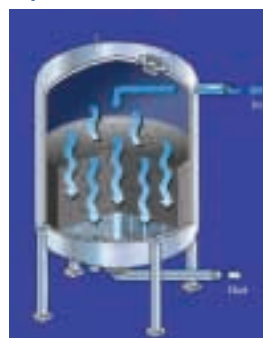
\*\* This equates to 8-11 gpm ft<sup>2</sup> (1.34-1.82 gpm/ft<sup>3</sup>). Contact time is approximately 4-6 minutes.

\*\*\*At 10 gpm/ft<sup>2</sup> (411 lpm/m<sup>2</sup>) dependent upon carbon



Model	Physical Dimensions				Weight	
	Straight side	Height (A)	Depth (B)	Width (C)	DRY	WET
	inches (cm)	inches (cm)	inches (cm)	inches (cm)	lbs (Kg)	lbs (Kg)
CT100	96 (244)	170 (4,318)	84 (2,134)	60 (1,524)	3,500 (1,588)	13,000 (5,897)
CT150	96 (244)	177 (4,496)	102 (2,591)	72 (1,829)	5,300 (2,404)	20,500 (9,299)
CT200	96 (244)	180 (4,572)	110 (2,794)	84 (2,134)	7,200 (3,266)	32,000 (14,515)
CT300	96 (244)	189 (4,801)	117 (2,972)	96 (2,438)	8,200 (3,719)	42,500 (19,278)

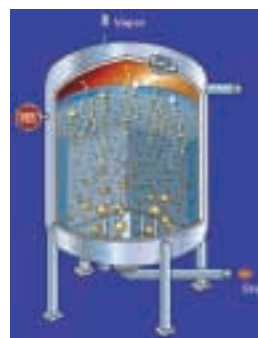
## Operational Modes



Service



Backwash



Hot Water Sanitization



Steam Stripping

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