



# ACTIVATED CARBON TOWER



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## About us

Sümer A.Ş. was established in 1981 in Ankara to provide services in the medical device sector. It has aimed advancement since the day of its establishment by also taking growth and compliance with the contemporary technologies and protecting the environmental conditions. Our manufacturing takes place in an area of 25.000 m2 in Ankara Organized Industrial Zone.

Our Firm is following the innovations in its sector and in abroad through its research and development unit and its application staff with a strong infrastructure of engineers, and is continuing to produce devices it had developed in computer environment based on such innovations with high technology and to contribute their development so as to be most beneficial for the Turkish medicine.

With this purpose, our Firm is strictly following the "Quality Management" principles and rules from design of the products to the after-sale servicing.

Our Firm has been currently certificated for compliance with ISO 9001 quality management system, ISO 13485 medical device quality management system certificate and ISO 14001 environment management system certificate and with product certificates under MDD 93/42/EEC Medical Devices Directive and PED 2014/68/EU Pressurized Equipment certificate. Furthermore, our steam sterilizers, and disinfection and washing devices have been certificated by the German accredited body.

Our Firm possesses the following certificates;  
CE Certificates under the following directives:  
ISO 9001,  
ISO 13485,  
ISO 14001 Quality Management System,  
MDD 93/42/EEC Medical Devices,  
PED 2014/68/EU Pressurized Equipment

## Our Vision

To make the Sümer brand a global brand to make our Firm remembered first in the sector.

## Our Mission

Our main task is to create designs with competition power in the global sense by taking the priorities of the sector into consideration and being respectful to the environment and people and giving the first priority to the wishes and expectations of customers, and also to produce innovative technological medical products by meeting all the national and international legal requirements.



## Benefits/Features

- Low maintenance
- Separate fill and drain ports allow for quicker carbon replacement
- Standalone units
- Includes pressure gauge
- PED coded vessel

## Typical Applications

- Food and beverage
- Pharmaceutical - manufacturing and processing
- PSA processes
- Membrane processes
- Breathable Air/Oxygen
- Anywhere air purity is critical

## Activated Carbon Tower

SÜMER CT series activated carbon adsorbers are perfect choice when it comes to delivering a continuous supply of high-quality compressed air. Any remaining oil-aerosols and oil vapors, including odors and tastes, are removed by the active surface area of the highly-porous activated carbon to produce high quality and clean compressed air.

Installed downstream of compressed air drying and pre-filtration components, they attain Class 1 (no higher than  $0.01 \text{ mg/m}^3$ ) residual oil content as per ISO 8573-1 to ensure dependable protection of sensitive production processes. They are therefore, the perfect choice for applications in the optical, surface technology, electronics, foodstuffs and pharmaceutical sectors.

SÜMER Carbon Towers are compact and designed to be free standing units and it does not need any maintenance. Pre-dried compressed air flows from top to bottom through a single vessel containing high-quality CarboTech activated carbon. Finally, the treated compressed air exits an after filter rated for solid particulates removal into the downstream compressed air network with an oil content of less than  $0.003 \text{ mg/m}^3$ .



Generously-dimensioned flow diameters, together with flow diffusers, ensure even flow distribution with an exceptionally low-pressure loss no higher than 0.1 bar. As a result, the compressor discharge pressure of upstream compressors, as well as the energy costs for compressed air production, can be kept as low as possible.

The lifetime of the activated carbon filling can vary and is dependent on the contamination type, quantity, and the relative humidity of the supplied compressed air. However, the adsorber bed can last up to an excess of 10,000 working hours when properly maintained.



#### Operating Range

Site Selection	Frost-free indoor installation in a non-hazardous environment
Ambient Temperature	2 to 50°C
Maximum Compressed Air Inlet Temperature	50°C
Maximum Operating Pressure	16 bar(g)
Medium	Compressed air and gaseous nitrogen

#### Recommended Filtration Requirements

	ISO8573-1:2010 Class 1.4.1
Pre-filter	0.01 micron (W-P-G) 0.01 mg/m <sup>3</sup> oil carryover (H) At least +3 degree pressure dew point
After-filter	Solid particulates 1.0 micron (D)
	UPS support for electricity failures

#### Materials of Construction

Pressure Vessels	Normal steel, welded, Painted, PED
Adsorbing Material	100% Activated Carbon

# Product Specification

## Ordering and Performance Data

Model	Flow Rate m3/h	Port Size	Max Pressure bar (g)	Max Temp. °C	Activated Carbon Amount (kg)
CT-120	120	3/4"	16	50	12
CT-250	250	1"	16	50	25
CT-375	375	1 ½ "	16	50	38
CT-500	500	1 ½ "	16	50	50
CT-750	750	2"	16	50	75
CT-1000	1.000	2"	16	50	100
CT-1500	1.500	2 ½ "	16	50	150
CT-2000	2.000	3"	16	50	200
CT-2500	2.500	3"	16	50	250

**Note-1:** For larger flow rates, please consult factory.

**Note-2:** ISO 8573-1:2010 Class 1 met when recommended filtration is used.

## Correction Factors

Model	Flow Rate m3/h	Port Size	Max Pressure bar (g)	Max Temp. °C	Activated Carbon Amount (kg)
psi	bar	35°C (95°F)	40°C (104°F)	45°C (113°F)	50°C (122°F)
73	5	0.75	0.64	0.56	0.38
87	6	0.89	0.76	0.67	0.45
102	7	1.00	0.85	0.75	0.50
116	8	1.13	0.92	0.81	0.54
131	9	1.26	1.07	0.95	0.63
145	10	1.31	1.11	0.98	0.65
160	11	1.36	1.16	1.02	0.68
174	12	1.49	1.27	1.12	0.74
189	13	1.62	1.38	1.22	0.81
203	14	1.70	1.45	1.28	0.85
218	15	1.79	1.52	1.34	0.90

## Dimensions and Weight

Model	Height (mm)	Width (mm)	Weight (kg)
CT-120	1.100	300	37
CT-250	1.000	350	65
CT-375	1.350	350	85
CT-500	1.600	350	108
CT-750	1.600	425	143
CT-1000	2.100	425	190
CT-1500	2.000	550	265
CT-2000	1.900	650	360
CT-2500	2.150	650	440

# Certificates and Brand Registry Documents

We believe that the way to the summit passes through high-quality and reliable manufacturing.





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