

#my life.
my
AIR



VERTO

MULTI-DIRECTIONAL AIR FILTRATION TOWER





The right to breathe clean air is the most fundamental of all human rights, essential for life itself. Coughing, sneezing, and gasping in polluted city air are stark reminders of how we've normalized what should never be taken for granted. Every breath we take must be free from harm, for without clean air, all other rights lose their meaning. More than 99% of people living in urban areas breathe air with pollution levels above the limits set by the WHO (World Health Organization) limits. As urban air quality declines, the risk of stroke, heart disease, lung cancer, chronic and acute respiratory diseases, including asthma, increases for the people who live in them.





Multi-Directional Outdoor Air Filtration Tower

Derived from the Latin word 'vertere' - to 'turn as', Verto purifies the polluted air in the area into clean air. Verto can clean about 7,00,000 cubic meters of air per day, which is equivalent to an area twice the size of a cricket field with upto a height of 2 meters or roughly the volume of 322 hot-air balloons. The filtration tower is equipped with energy-efficient fans that suck in the ambient air. The air is then filtered using fine dust filters to remove fine dust particles ($PM_{2.5}$, PM_{10} , NO_2) containing pollutants from the air sucked in. A specially designed control system allows for demand-driven operation depending on the level of pollution.



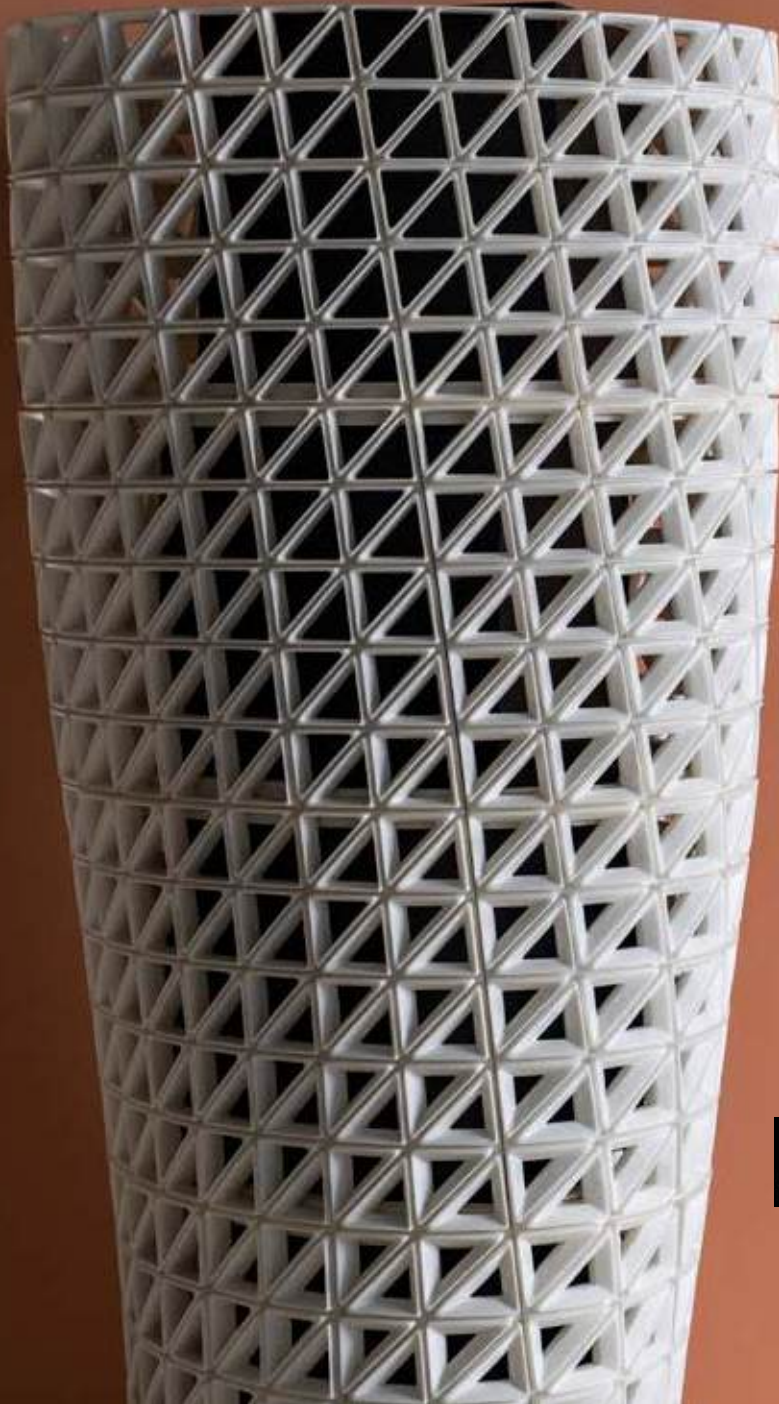
Studio Symbiosis - an award-winning architectural, master planning & interior design studio based in Stuttgart Germany and Delhi NCR saw the necessity and urgency to design a solution to tackle the growing issue of Air Pollution in India. Verto was born out of an iterative process on the principles of performance based aesthetics to achieve a sustainable and elegant design solution for the long term. Verto's multi-directional, outdoor air filtration tower is equipped with renowned German quality Air filtration system to clean the air of the ultra fine particles that are extremely hazardous to human health.

Amit & Britta Knobel Gupta
Designers - Verto



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winner
2023



GERMAN
DESIGN
AWARD
SPECIAL
2024



GERMAN
INNO
VATION
AWARD '24

AWARDS
WORLDARCHITECTURE.ORG
WINNER 2023



Size	: 2.1 m x 1.3 m
Height	: 5.5 m
Filtering	: PM _{2.5} / PM ₁₀ / NO ₂
Separation Rate for PM ₁₀	: Greater than 80%
Separation Rate for PM _{2.5}	: Greater than 60%
Separation Rate for NO ₂	: Greater than 75%
Air Flow Rate	: 7,00,000 m ³ /day*
Electrical Power (Duty Point)	: 2500 W
Electrical Power(Max)	: 5000 W
Nominal Voltage Rate	: 400 VAC (3-)
IOT enabled	: For Remote Access / Management
Fan	: Energy-efficient smart fans equipped
Filters	: Combination filter with a layer of activated carbon
dB (A)	: < 75 dB at the source
Components	: Exterior Shell and Substructure is manufactured in India and the Filtration system sourced from Germany

* 700000 m³/day is equivalent to twice the size of a cricket field 2m high or equivalent to the capacity of 322 hot air balloons.
Effective diameter will depend upon on site conditions such as prevalent wind speed, wind direction, air quality, presence of any obstruction and cumulative effect.

Virtual testing can be done through simulations.





PANELS & MODULAR DESIGN

The Verto tower is built using GRC (Glass-Fibre Reinforced Concrete) or FRP (Fibre Reinforced Polymer) panels, giving it a durable, long-lasting structure. The architecture employs a modular, plug-and-play system – shipped in flat-pack form and assembled on-site. Each module stacks with precision – each Verto tower comprises five full levels and a half-level base, allowing effortless on-site assembly, straightforward maintenance, and independent access to every module. The structure is built to be tamper and vandal-proof, with a two-hour fire rating – ensuring safety and durability in public installations.

The external finish and geometry balance aesthetic subtlety with structural strength – making Verto fit seamlessly into parks, corporate campuses, residential complexes, or urban public spaces, while doubling as an elegant urban sculpture. With six thoughtfully designed shades, Verto blends naturally into any landscape.

WEATHER
RESISTANT

VANDAL-PROOF
DESIGN

2 HRS
FIRE-RATED

EASY MAINTENANCE
MODULES



AERODYNAMICS & WIND FLOW

Verto's distinctive twisted/helical form is born out of aerodynamic design principles to maximize surface area and channel wind efficiently along its body. Through Computational Fluid Dynamics (CFD) simulations, the design ensures minimal resistance and optimized airflow - pulling ambient air in from all directions into the filtration system. Every level is positioned in a structurally rotating configuration to enable true multidirectional air purification, while the multi directional intake and outflow ensures consistent clean air-throw around Verto with maximum output and impact.

MULTIDIRECTIONAL
AIR PURIFICATION

MAXIMIZED
SURFACE AREA

ACCELERATES
NATURAL WIND FLOW

CONSISTENT
AIR EXCHANGE



FILTRATION SYSTEM & AIR QUALITY CAPABILITY

Verto uses advanced fine-dust filters to remove harmful airborne particles including $PM_{2.5}$ and PM_{10} . For gaseous pollutants such as NO_2 - or situations with high ozone levels - Verto can deploy combination filters: a fine-dust filter plus a highly porous activated carbon layer that adsorbs gaseous pollutants effectively. A Verto is capable of cleaning up to 7,00,000 cubic meters of air per day - roughly equivalent to a volume covering twice the size of a cricket field at a height of 2 meters or equivalent to the capacity of 322 hot air balloons.

HIGH-EFFICIENCY
FINE DUST FILTERS

COMBI-FILTERS FOR
GASEOUS POLLUTANTS

ACTIVATED
CARBON LAYERS

PLASTIC-FREE
FILTER MEDIA



ADAPTIVE CONTROL, EFFICIENCY & SUSTAINABILITY

Verto is equipped with energy-efficient fans that draw ambient air into the system. A smart IoT control system enables easy operation, timely maintenance and energy saving. Filters are designed for practicality and sustainability: the filtration media is plastic-free and disposable as household waste, simplifying maintenance and minimizing environmental footprint.

SMART IoT CONTROL
& MONITORING

ENERGY-EFFICIENT
FANS

LOW POWER,
HIGH OUTPUT

LOW
OPERATING NOISE



SCALABILITY & REAL-WORLD IMPACT

Verto's modular, plug-and-play architecture makes it suitable for diverse urban contexts - parks, plazas, residential complexes, corporate campuses, schools, and community spaces. Its efficient design aims to deliver massive air purification capacity without compromising urban aesthetics - blending the role of a functional tower with that of a sculptural urban marker. The design of a Verto is optimised for hive configurations, creating a sustained zone of clean, breathable air. As noted by its creators and technical partners, Verto demonstrates how design, materiality, environmental science, and engineering can converge to deliver real-world solutions to air pollution.

SEAMLESS
DEPLOYMENT

FITS DIVERSE
ENVIRONMENTS

SINGLE UNIT TO
HIVE DEPLOYMENT

ENHANCES
URBAN AESTHETICS



Your Questions. Verto Answers

1. What is the cost of filter replacement for a Verto (recurring cost)?

The filter cost is INR 5 lakh for a complete Verto which includes 60 filters.

2. How many times do you need to change the filter?

It depends on the location and the pollution level between 3 to 12 months.

3. Who replaces the filters?

The buyer of Verto can manage the filter change themselves. Alternatively we can also change it as per actual cost.

4. What is the cost of maintenance of a Verto?

There is no other cost apart from the cost of filter replacement (Refer point no. 1). Your team can procure the filters directly or you can ask us and we will exchange it for you as per actual costs.

5. What is the electricity consumption cost of a Verto?

Verto consumes about 2.5 kw units per hour at moderate speed and 5 kw units per hour at maximum speed.

6. What is the decibel level when in operation?

The fan decibel level is 75db within a Verto. At around 1m away it drops to 60db and it progressively drops as you move further away from the unit.

7. How effective is the Verto in improving AQI levels?

The Separation Rate of a Verto is 80% for PM₁₀, 60% for PM_{2.5} and 75% for NO₂. After the reduction of these particles in ambient air, the cumulative effect will be such that the AQI levels will be significantly low at the location.

8. What is its maximum range in terms of distance covered?

Effective diameter will depend upon on-site conditions such as prevalent wind speed, wind direction, air quality, presence of any obstruction and cumulative effect. It is difficult to determine the distance as it varies from location to location.

9. Has Verto been installed anywhere in India?

Yes. The first Verto was installed at Sunder Nursery Park, New Delhi, one at Adani Airica, Mumbai and two more are currently under installation in Uttar Pradesh.

10. What happens when it rains?

Verto comes equipped with a rain sensor on the top and when it starts raining it automatically switches off.

11. Is there an AQI meter in the machine?

No. But an external unit can be installed at an additional cost.

12. Can the Verto data be recorded?

It can be recorded via the app if you buy the sensor at an additional cost. You can also buy a monitor, to show the values that the Verto is achieving.

13. What is the fan type in a Verto?

EC smart fans.

14. Does the fan need replacement?

No. Unless there is a technical issue with it, which is rarely seen, the fan does not require replacement.

15. What is the speed at which the fan rotates?

Maximum Flow rate is 5700 cubic meter per hr.

16. Can the Verto fan suck in any large pollutants like leaves or small animals and birds?

There are protective grills built into the design to stop any large objects from getting sucked in. Verto is designed not to harm nature especially birds and other animals.

17. What are the technical details of the filter?

The filters are proprietary combination media filters. The combination filters have a layer of activated carbon on them.

18. Are the Verto filters waterproof?

No. It is housed inside the cube away from moisture.

19. How heavy is a single Verto structure?

The overall weight of a single Verto tower is about 2.5 ton (with GRC skin). Every cube weighs about 200 kgs.

20. Has it been tested for stability against hurricanes winds?

No. But it can be tested upon request.

21. What is external shell of Verto made of? Are there variants available?

GRC (Glass Fiber Reinforced Concrete) Shell is used over an MS/GI substructure in different shades with small additional cost as per actual. FRP (Fiber Reinforced Polymer) option is currently under development.

22. What is the internal structure of Verto made of?

MS (Mild Steel) or GI (Galvanised Iron). The MS will be powder coated and might need to be repainted after few years in case it starts rusting in the specific environment.

23. Can a Verto be installed inside buildings?

Yes it can be installed within the building with the actual foundation required. If installed on top of existing structure the load has to be checked if the structure can take the load of Verto.

25. Will other versions of the Verto be available for other spaces?

Not currently but we can offer a lower Verto with 3 levels. Height would be 3.5m high.

26. What is the delivery time for Verto?

About 12 to 16 weeks.

27. What is the space required for installing a Verto?

Each Verto tower has a 2.1m x 1.3m (footprint) and 5.5m height. As Verto is a Twisted Ellipse, it requires a minimum 2.5m x 2.5m installation space and clear area around it for wind flow.

28. Is there a foundation needed?

Yes, depending on the soil report provided by client, we provide the foundation drawing.

29. What is the number of days required for installation?

After the delivery of items to the site, Verto requires approximately 15 days for on-site installation over the already casted foundation. Research and development is underway to decrease this timeframe.

30. What type of electrical connection is needed?

A 3-Phase electrical connection.

31. What is the cumulative air flow per day?

About 7,00,000 cu.m. per day which is equivalent to twice the size of a cricket field with 2m height or approximately 322 hot air balloons.

32. How is NO₂ getting reduced?

Nitrogen dioxide (NO₂) is adsorbed on activated carbon through a process called adsorption. Here's a simplified explanation of how it works:

- 1. Initial Contact:** When NO₂ comes into contact with the surface of activated carbon, it gets adsorbed onto the carbon's porous structure through physisorption.
- 2. Chemisorption:** The NO₂ /NO molecules react with the carbon surface.

How do you dispose the filters?

The filters can be disposed as normal household waste. The carbon itself can be regenerated at high temperatures. Gases can be desorbed. However since non-woven layer is laminated together, recycling is difficult unless in the future we can feasibly and economically separate the layers. So disposal is normally through incineration.



SUNDER NURSERY PARK, DELHI



LAL BAGH, LUCKNOW



DUBAI



Verto Colours

Verto Outdoor Air Purification Towers bring design and elegance to clean air. Available in a curated palette of natural shades, Verto is crafted to complement any urban environment with colours that are easy on the eye. With subtle variations within each tone, it seamlessly adapts to diverse aesthetic milieus, proving that technology and beauty can coexist in harmony.

Glacier White

For that minimalist and puritan look that embodies clarity and simplicity.



Limestone Haze

For subtle elegance with a muted, contemporary sophistication.



Dune Drift

For that bold, earthy warmth that grounds every space in timeless character.



Patina Clay

For a natural, handcrafted feel that softens modern edges with authenticity.



Sunbaked Terra

For sunlit vibrance that echoes the charm of rustic landscapes.

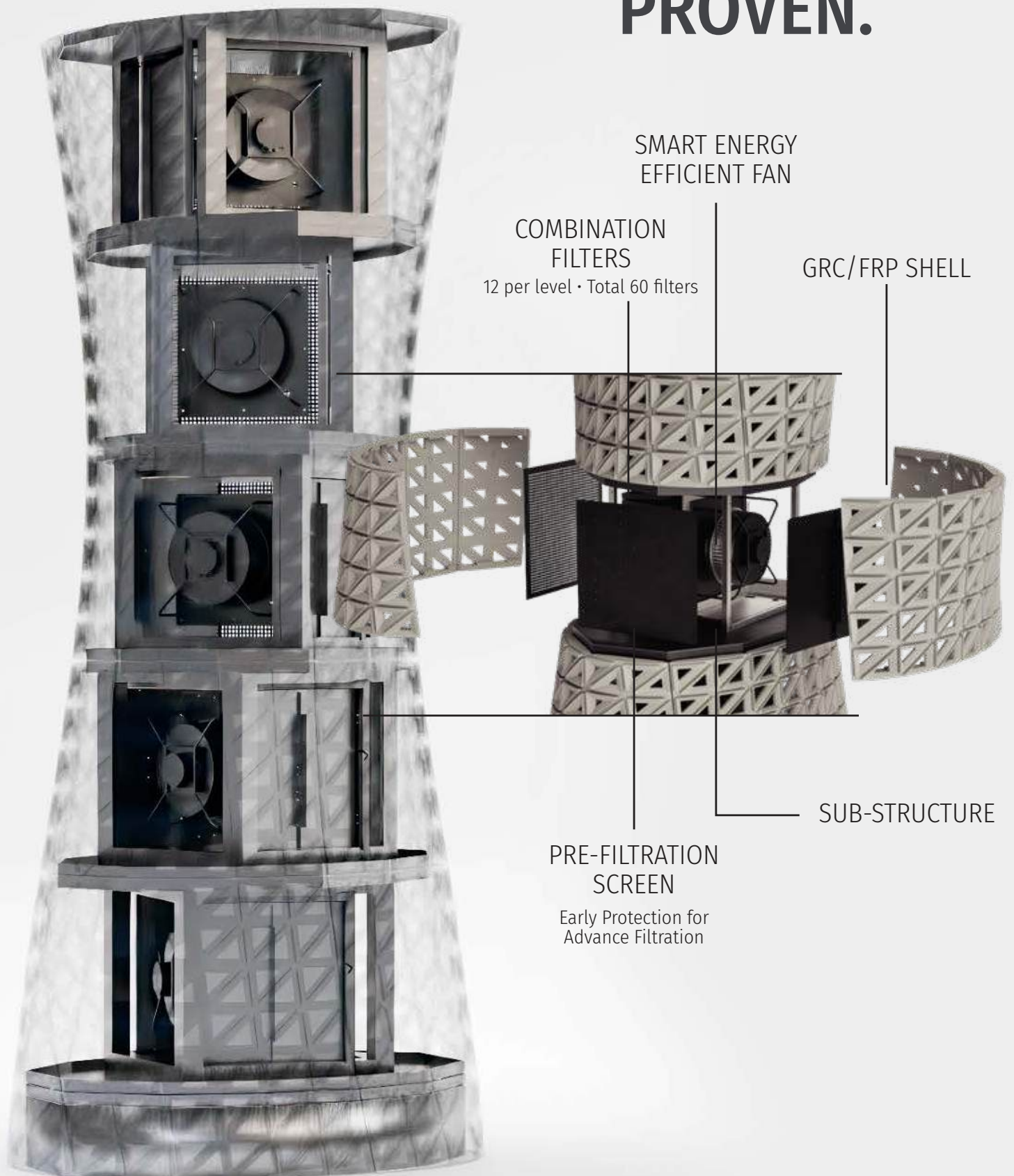


Burnt Sienna

For breezy, desert-inspired calm that flows effortlessly into serene exteriors.



PERFORMANCE. PROVEN.



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