

# CITYBREEZE

## GREEN meets SCREEN

### SUSTAINABILITY & DIGITIZATION COMBINED IN ONE SOLUTION

The energy-saving screen and breathable mosses to improve the air quality and boost your ESG and sustainability reporting

#### BREATHING MOSS FILTER

for demonstrably better air  
and a refreshingly cool breeze

COOLS &  
HUMIDIFIES  
the ambient air

up to  
**4°C**

REDUCES  
FINE DUST  
in the air

up to  
**82%**

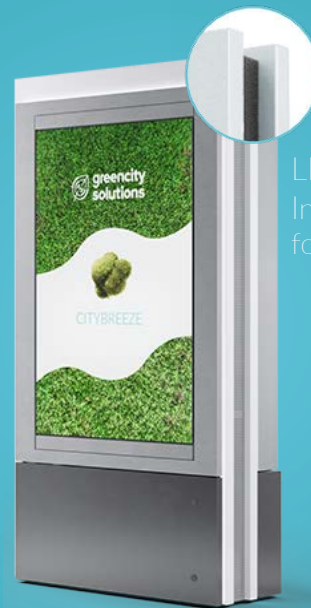
COMPENSATES  
CO<sub>2</sub> & CO<sub>2</sub>-  
EQUIVALENTS

up to  
**85 kg**  
yearly



#### 75" LCD SCREEN

the first OOH column that  
is cooling instead of heating



LED LIGHTING  
Individual color selection  
for enhanced radiance



AIRCARE COCKPIT  
Real-time performance  
& environmental data  
for your ESG and  
sustainability reporting



**AIR PURIFICATION**  
hourly breathing volume of  
2.900 people



**COOLING CAPACITY**  
equivalent to  
21 trees



**CLOSED LOOP**  
waste-free and efficient  
resource utilization

# CITYBREEZE

## HOW IT WORKS



### CENTERPIECE MOSS MODULE

#### SUPERSTRUCTURE MOSS

1

About 2 m<sup>2</sup> of moss grow in the CityBreeze. According to Leaf Area Index this corresponds to an active & cleansing moss surface of 50 m<sup>2</sup>.

#### ACTIVE VENTILATION

2

Warm, impure city air is passed through the mosses and released as a fresh and clean breeze regardless of external conditions.

#### SMART SENSORS

3

Built-in sensors detect the vitality of the mosses. A unique bio-algorithm controls the ideal supply and saves resources.

## EXAMPLE

### 1 CITYBREEZE PER YEAR

PURIFIED AIR **≈ 12,5 Mio. m<sup>3</sup>\***



Cooling capability of  
**21 trees**

corresponds to

FILTERED PARTICLES **≈ 150 g\*\***



**12,500**  
cigarettes



**35,000**  
km car ride

\* Fan speed 0.24m/s in 24/7 operating time

\*\* Based on pm<sub>6</sub>-concentration of 25 µg/m<sup>3</sup> and 60% average filter performance



### AIRCARE

Sensors capture performance and environmental data in real time. This way, the environmental impact can be measured and used directly in your ESG and sustainability reporting.

### MAINTENANCE

Regular checks of the moss modules and the electronics by Green City Solutions or certified partners, ensure an optimal operating level and longevity.

# MOSS

## THE SUPERPLANT

Mosses are the oldest land plants on earth and capable of amazing things. They bind fine dust, are antiseptic, antiviral and fungicidal; real all-rounders for air pollution control and health.



### WATER STORAGE WITH COOLING POTENTIAL

Mosses are small sponges and can store enormous amounts of moisture. This makes them an ideal component in rainwater management. The water not only serves the vitality of the moss, but also cools the surrounding air noticeably through natural evaporation.



### AIR AND CLIMATE PROTECTION

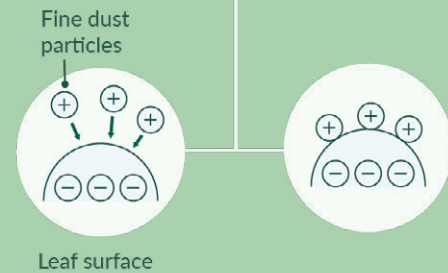
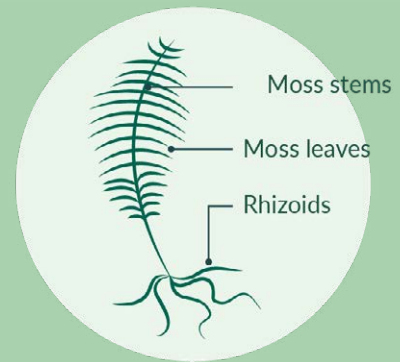
Specialised mosses bind and metabolise particles and gases that are harmful to the climate and health, such as soot, CO<sub>2</sub> or PAHs. The majority of the elements are metabolised directly or indirectly biodegraded by microorganisms and then converted into harmless biomass.

### MOSS FARM & MOSS

As pioneers in the use of moss, everything has always revolved around these inconspicuous plants. In the moss laboratory mosses are researched and qualified for cultivation. Under controlled conditions the super plants grow in the moss farm about 16 times faster than in nature.

Sustainability is also a top priority in the fully digitalised moss farm. The use of water, heat and electricity is monitored by sensors and optimally controlled.

The mosses are robust and reusable after a treatment in the moss farm they can clean the air for another six months before they are returned to the farm.



- ≈ 50% of the particulate matter are **metabolized** and thus used as food
- ≈ 25% of the fine dust are **biodegraded** by microorganisms
- ≈ 25% of the fine dust are **stored** in the sediment of the moss



# LITTLE SPACE BIG IMPACT

The city needs more green, more trees?  
**ABSOLUTELY!**

Only where to plant them,  
when the urban soil is mostly sealed?



A sustainably healthy and productive tree  
needs as much space for its roots as its  
crown is big.

A CityBreeze, on the other hand,  
is enormously space-efficient.

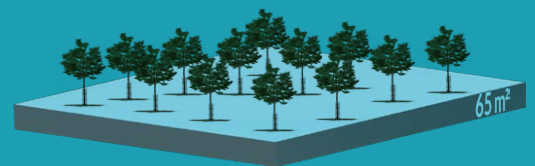
**It works where trees cannot  
find space.**



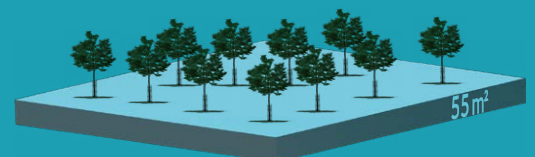
## GREEN SPACE WITHOUT ROOTS

### A CITYBREEZE ...

... cools like  
**21** trees



... reduces CO<sub>2</sub> &  
CO<sub>2</sub> equivalents like  
**11** trees



# ONE PRODUCT - VERSATILE USAGES

Clean and cool air is not part of the status quo. That is now changing. Since its market launch in 2021, the CityBreeze has already been used several times outdoors, for example in the Plagwitzer Höfe neighborhood in Leipzig, at gas stations or in public places. But it is not only there that it is gaining in popularity.

The CityBreeze is now conquering Germany's indoor spaces, whether in shopping malls or at an event like the Re:publica 2022 in Berlin: It brings fresh air to places where many people gather.



Das Marquardt | Stuttgart



Allee-Center | Leipzig



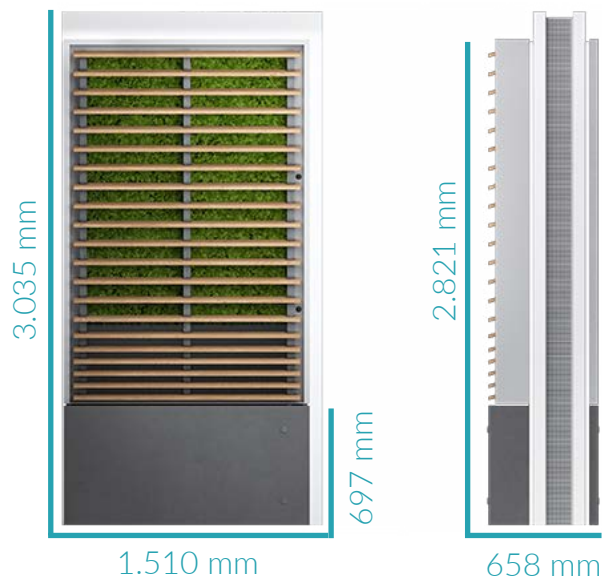
Plagwitzer Höfe | Leipzig



Shell Gas station | Wildau

# CITYBREEZE

## TECHNICAL DATA



### 75" SCREEN

Crystal clear images even in direct sunlight

**Format** 9:16 (portrait)  
**Resolution** 2.160 x 3.840 (4K)  
**Brightness** 3.000cd/m<sup>2</sup>

Weather & vandal resistant

Shatter-binding laminated safety glass and housing construction with certified impact resistance - 2 × IK10

### TECHNICAL DATA

Characteristics	Data
Permissible temperature range for installation	-20°C to +40°C
Operating temperature for active ventilation and filter performance	-5°C to +35°C
Biologically active area for regeneration of mosses	+4°C to +25°C
Input and output signals	GSM/LTE
Sound emission (at 1400m <sup>3</sup> /h)	54 db(A)
Product weight	780 kg

### INSTALLATION OPTIONS

#### Foundation

Setting up and securing the CityBreeze on a foundation.

#### Platform (optional)

Free-standing installation of the CityBreeze on a platform, no ground anchoring necessary and available in different versions.

### TECHNICAL COMPONENTS

#### Product structure

**4x moss units** composed of ventilation and humidification unit

**75" LCD display** with Teltonika router and LTE/WLAN antenna (Protected by laminated safety glass)

**High-quality stainless steel housing** combined with wood from oiled larch (PEFC-certified)

**Water treatment** with osmosis filter and water recycling pump

**LTE Router** for cloud connection

**LED lighting** adjustable in colours (RGB) and neutral white

#### Moss control sensors

for recording temperature and humidity for optimal care of the mosses

#### Environment sensors (optional)

Fine dust sensor and/or weather station for recording environmental data

# TECHNICAL DATA

## WATER

Characteristics	Data
Average Water Consumption	About 0.8l/h (at ca. 20°C)
Water connection	to 20 mm PE pipe (adaptations possible)
Alternative: water tank in platform	Free-standing, approx. 320l or cistern (frost-free) or 800l in hexagon



## POWER

Characteristics	Data
Grid connection	230 V
Average power consumption moss modules / bio filters	45 W
Average power consumption 75" display	450 W
Average power consumption LED lighting	45 W
Nominal current	Protection with 16 A
Operating voltage CityBreeze	24 V DC
Max. Total Power	2.130 W
Average power consumption (16h per day)	280 kWh/month

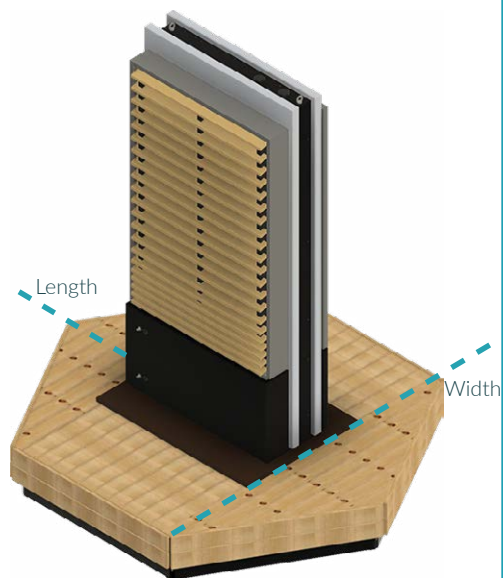
# TECHNICAL DATA

## LOAD CAPACITY



### CITYBREEZE WITH PLATFORM DIMENSIONS

Height 3.287 mm  
Length 1.546 mm  
Width 3.283 mm



### CITYBREEZE ON HEXAGON DIMENSIONS

Height 3.485 mm  
Length 3.235 mm  
Width 2.828 mm

## CITYBREEZE WITH SEATING PLATFORM

Scenario	Surface	Weight	Surface load	Load on the set-up foot
CityBreeze - short platform <b>without</b> tank bench	2,5 m <sup>2</sup>	1.180kg	468 kg/m <sup>2</sup>	0,51 N/mm <sup>2</sup>
CityBreeze - <b>without</b> water & <b>without</b> personal load	4,4 m <sup>2</sup>	1.310kg	295 kg/m <sup>2</sup>	0,38 N/mm <sup>2</sup>
CityBreeze - <b>with</b> water and <b>without</b> personal load	4,4 m <sup>2</sup>	1.630 kg	368 kg/m <sup>2</sup>	0,47 N/mm <sup>2</sup>
CityBreeze - <b>with</b> water and personal load	4,4 m <sup>2</sup> (Standing area 3,03 m <sup>2</sup> )	1.630 kg (with tank bench) 1.237 kg (by man load)	646 kg/m <sup>2</sup>	0,83 N/mm <sup>2</sup>

## CITYBREEZE ON HEXAGON

Scenario	Surface	Weight	Surface load	Load on the set-up foot
CityBreeze - <b>without</b> water and <b>without</b> personal load	6,65 m <sup>2</sup>	1.430kg	215 kg/m <sup>2</sup>	0,57 N/mm <sup>2</sup>
CityBreeze - <b>with</b> water and <b>without</b> personal load	6,65 m <sup>2</sup>	2.230kg	335 kg/m <sup>2</sup>	0,92 N/mm <sup>2</sup>
CityBreeze - <b>with</b> water and personal load	6,65 m <sup>2</sup> (Standing area 5,66 m <sup>2</sup> )	2.230 kg (with filled hexagon) 2.306 kg (by man load)	682 kg/m <sup>2</sup>	1,92 N/mm <sup>2</sup>

# FACTSHEET GREEN CITY SOLUTIONS

## About the CityBreeze

The CityBreeze combines active air filtration by moss with digital presentation technology. On one side is a green, vitalizing moss wall with active filter technology and on the other a 75 inch LCD screen. This combination makes sense: both information and advertising as well as the selective improvement of air quality is placed where as many people as possible react and benefit.

Green City Solutions has combined its vision of bringing fresh air to cities with Digital-Out-Of-Home, creating the first truly sustainable advertising network called „climAD.“ This network not only broadcasts digital messages but also emits cool and clean air. With every 10-second spot aired, over 4,000 liters of fresh air are produced. Advertising gains a valuable additional benefit, capturing the attention of viewers and making the advertising medium stand out. Currently, the fresh air network reaches over 2.7 million contact opportunities per week and continues to grow. Whether it's product launches, recruitment campaigns, or awareness campaigns, climAD is the perfect medium for impactful communication.

## QUICK FACTS

- The active moss filters can remove up to **82%** of fine dust (PM6) from the air, measurably improving the air in the immediate vicinity
- The performance and effect parameters were **evaluated** in extensive scientific measurements
- Environmental performance can be detected, evaluated and controlled through the **use of sensors**
- The CityTree is never “full“, as the fine dust is converted to the natural biomass by the moss
- Mosses thrive under controlled conditions in the moss farm up to **16x** faster than in nature

## WEB

[greencitysolutions.de/en/](http://greencitysolutions.de/en/)

## SOCIAL MEDIA

Instagram  
YouTube  
Facebook  
LinkedIn

## CONTACT

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## ADDRESS

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