Controlled-environment agriculture (CEA)

Technical Information

INTERNATIONAL 2026

Valid from 1st of January 2026

SUSTAINABLE SOLUTIONS FOR YOUR COMFORT

The Critical Role of Filter Box Systems in Controlled-environment agriculture

Clean air is fundamental for successful indoor farming.

Modern Controlled-environment agriculture (CEA) requires precise control of air quality to maximize crop health, yield, and operational efficiency. Particulate matter, volatile organic compounds (VOCs), and microbial contaminants pose significant risks to plant growth and facility compliance. Our **EPP Filter Box System**—equipped with a **ISO Coarse 75% / MERV 8 pre-filter** and **Carbon 250g F7 (ePM2.5 65%)**—delivers a **complete air-cleaning solution** engineered for horticultural environments.

1. System Overview

A **triple-stage air purification solution** engineered for high-performance indoor farming. Combines a **ISO Coarse 75%** (**MERV 8 pre-filter), ePM1 60% (F7)** with a **Carbon 250g F7 (ePM2.5 65%)** to remove particulate matter, VOCs, and pathogens while optimizing energy efficiency.

2. Key Benefits

✓ **Superior Air Purity** – Removes 99% of particles >3μm and 95%+ of VOCs
✓ **Energy Efficient** – Low ΔP (≤69 Pa @ 500 m³/h) (for dual filtration)
✓ **Humidity Resistant** – Stable in up to 90% RH (vs. coconut carbon degradation at 70% RH)

3. Ideal Applications

- **Cannabis Cultivation** – Controls terpenes (β-myrcene 96%) and prevents cross-contamination
- **Vertical Farms** – Reduces ethylene (89%) to extend shelf life of leafy greens
- **High-Humidity Greenhouses** – Stable in tropical conditions (90% RH)
- **Organic Farms** – Certified for pesticide/fertilizer odor scrubbing

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Benefits for Indoor Farming

- **Plant Health & Yield:**

Clean and pollutant-free air prevents physiological plant stress, disease development, and supports optimal growth conditions.

- **Odor Control:**

Removes odors that can accumulate in closed environments, ensuring a pleasant and neutral working atmosphere for staff and visitors.

- **System Longevity & Energy Efficiency:**

The two-stage system reduces filter clogging, minimizes pressure drop, and ensures efficient ventilation with low energy consumption.

- **Flexible Integration:**

PureFLow200 filter box is compatible with various duct sizes (e.g., DN200, DN160 /8" to 6") and can be tailored to different air flow rates and facility sizes.

Product range

At GHT, we are dedicated to providing innovative and energy-efficient solutions for ventilation and air quality improvement. Our products are designed with precision, sustainability, and performance in mind to meet the needs of both residential, commercial and indoor farming applications.

In this catalog, you will find a comprehensive selection of our products, detailed technical specifications, and transparent pricing to help you make informed decisions. From top-tier pre-heater/cooler for HRV/ERVs to high-performance filter boxes, every product reflects our commitment to quality and reliability.

We invite you to explore our offerings and discover how GHT can enhance your indoor air quality while promoting energy efficiency. Thank you for choosing GHT – where innovation meets sustainability.

PureFlow 200 Filter box

DESCRIPTION

The inline filter box is manufactured from EPP (Expanded Polypropylene), a material known for its excellent thermal and sound insulation properties. Thanks to this innovative material, the filter box does not require any additional insulation, reducing installation costs and simplifying system integration. Quick and easy filter replacement

PureFlow 200

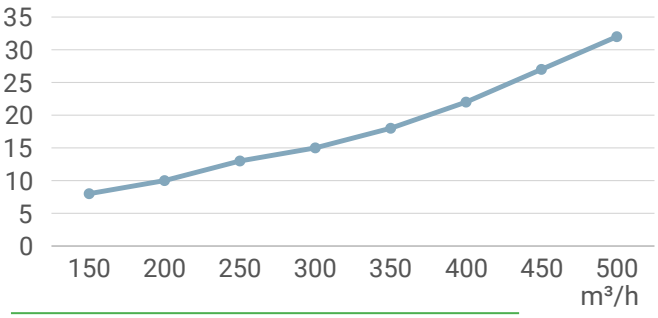
Solution for indoor farming ventilation systems with and without heat recovery

The filter box can accommodate up to three filters. To ensure high filtration of the incoming outside air, the combination of filters can be used. As pre-filter ISO Coarse 75% / MERV 8 filter should be used. An ePM 1 60% (F7) / MERV 13 filter or a Carbon 250g F7 (ePM2.5 65%) filter can be installed as additional in different combinations.

Filters must be replaced every 6 months, depending on the quality of the outside air.

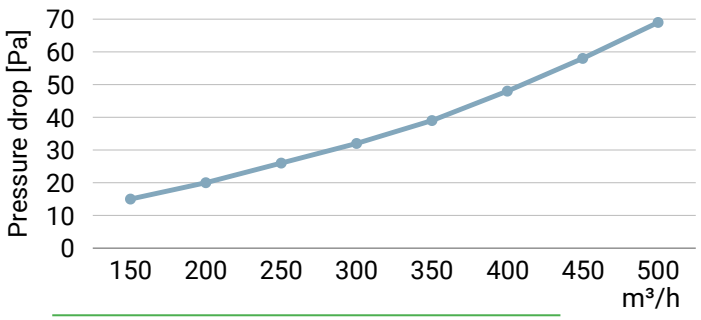
Pressure drop [Pa]

Filter ISO Coarse 75% / MERV 8 (thickness 48mm)

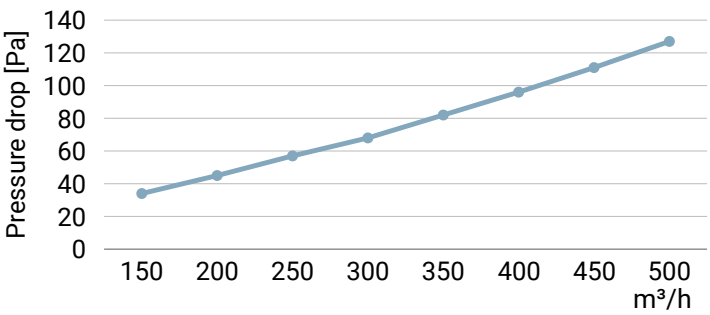


FILTER COMBINATION PRESSURE DROP

Filter ISO Coarse 75% / MERV 8 and Carbon 250g F7 (ePM2.5 65%)

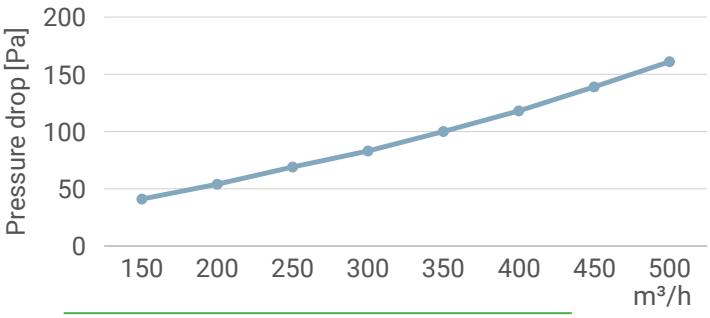


Filter ISO Coarse 75% / MERV 8 and Filter F7 ePM1 60% / MERV 13

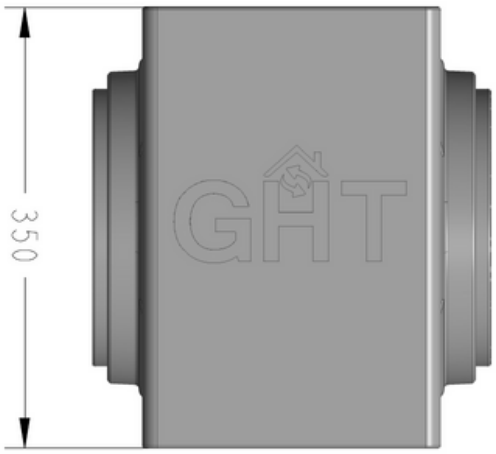


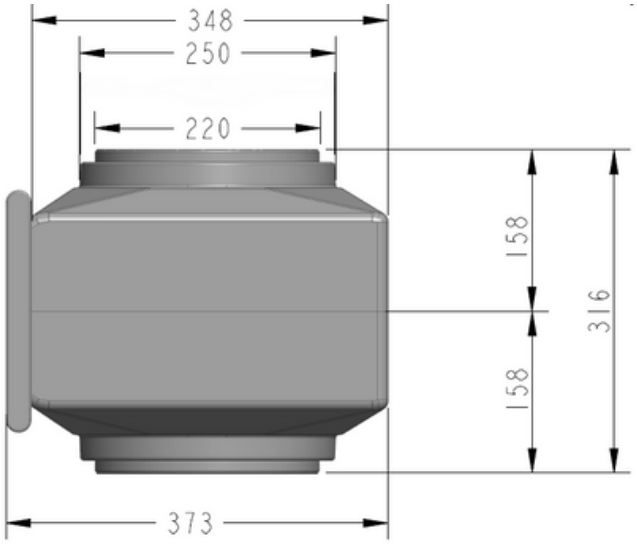
PureFlow 200 Filter box

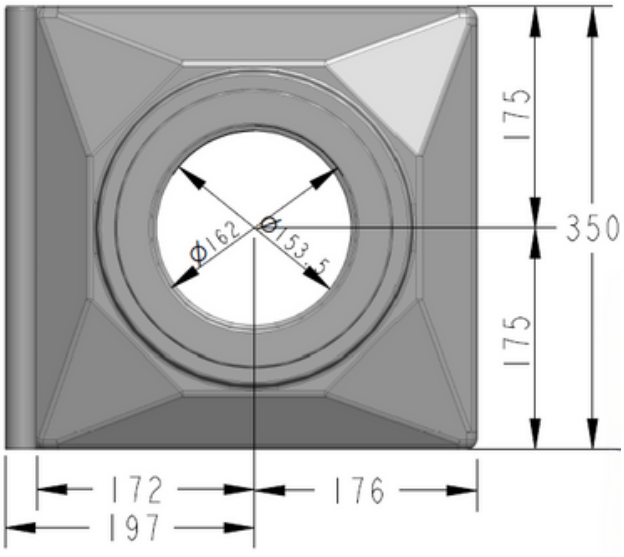
ISO Coarse 75% + F7 ePM1 60% + Carbon 250g F7 (ePM2.5 65%)



DIMENSIONS [mm]







Duct connection adapters DN200/D160
Duct connection adapters 8''/6”

Contacts

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