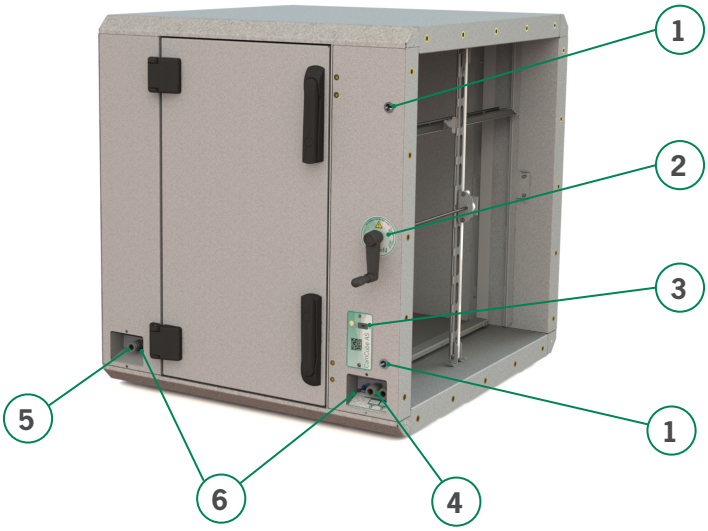
CamCube AS

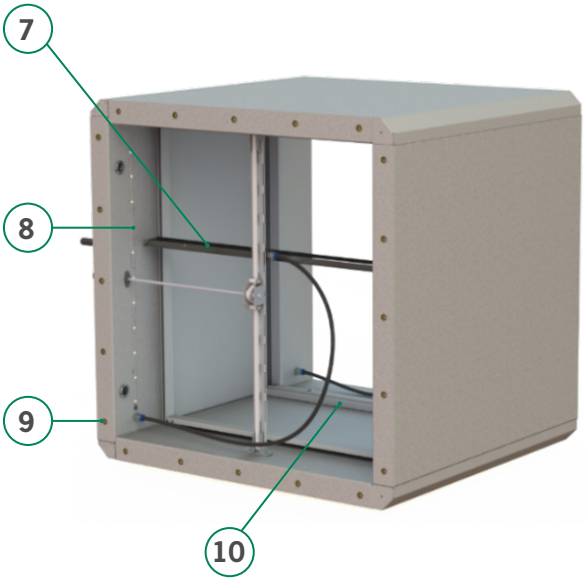
HANDLING AND MAINTENANCE INSTRUCTION

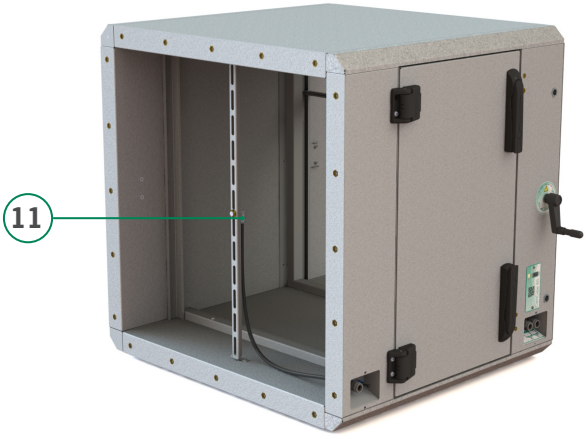
CAMCUBE AS

Ducted HEPA filter housing with an innovative scanning system to perform integrity tests of installed filters. The filter housing is optimized for horizontal airflows and reversible depending on the airflow direction.

The filter housing and the non-intrusive scan system are designed to be compliant with ISO 14644-3, with a scanning probe that covers the entire downstream face and perimeter of each filter, the gasket seal and the grid structure, including its joints. The housing is provided with ports for filter pressure drop measurement.







DESCRIPTION

1. Inspection lenses
2. Crank to move the scanning probe
3. Battery box with light switch
4. Downstream scanning port/s
5. Upstream aerosol sampling port
6. Pressure drop measurement ports
7. Scanning probe
8. LED light
9. Flange connection
10. Filter clamping system
11. Upstream measuring point

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HANDLING INSTRUCTION

When the housing is moved or transported the service door must be closed and the scanning mechanism and crank must be protected. When needed the housing can be wiped with water or a mild detergent.

INSTALLATION OF THE HOUSING

For information about the flange connections, see drawings. The equipment needed for installing the housing is not provided by Camfil.

Be aware of the airflow direction when installing the housing. Check the diagonal dimensions to ensure a perpendicular installation. Minimum 1 meter free space in front of the service door is needed for filter change.

NOTE: Designed for indoor use

VISUAL INSPECTION

For visual inspection of the scanning system the housing is equipped with wide angle inspections lenses and LED strip light. The LED has a lifetime of 20 000 hours and protection class IP44.

The on/off switch is placed on the battery cover. To change the battery (9 V Lithium block), the cover is removed by loosening the two socket screws with a hex key (3 mm). The used battery shall be recycled at a local collection facility.

SCANNING

Upstream aerosol concentration is sampled through the upstream sample port, 1/8" female coupling. Follow the recommendations in ISO 14644-3 when it comes to the concentration of upstream aerosol challenge and its verification.

Connect the measuring equipment to the scanning port downstream (1/8" female coupling) using a 1/8" male plug. The scanning process is executed one filter at a time.

NOTE: The integrated scan system (connectors, tubing and scan probe) has a total resistance of up to 3000 Pa using a photometer with 8/6 mm hose, max 75 cm. With particle counter the resistance is slightly lower (-300 Pa) but recommendation is still to use a pump driven measuring equipment to ensure correct sample flow (1CFM).

Closest to the service door you find the port for pressure drop testing. Next to it is the aerosol sampling/scanning ports.

When equipped with two filters the housing has double sampling ports. The schematic drawing indicates which port is connected to which scanning probe.

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To obtain the optimal probe velocity of 10 mm/s the crank should be turned at 12 rpm, roughly 5 seconds per turn. Turn the crank until you feel a slight resistance. Use the inspection lenses to verify that the probe is either in the top or bottom position.

WARNING: Turning the crank beyond the end position or the use of excessive force can damage the probe mechanism. If damaged, the entire scan system will need to be replaced. Replacement kits are available and easy to install.

Crank to move the scanning probe from outside of the housing. The scanning probe inside of the housing covers the entire filter surface including gasket seat in one single pass.

FILTER INSTALLATION & FILTER CHANGE

Camfil recommends filters with handles for simplified filter installations and filter change.

FILTER INSTALLATION

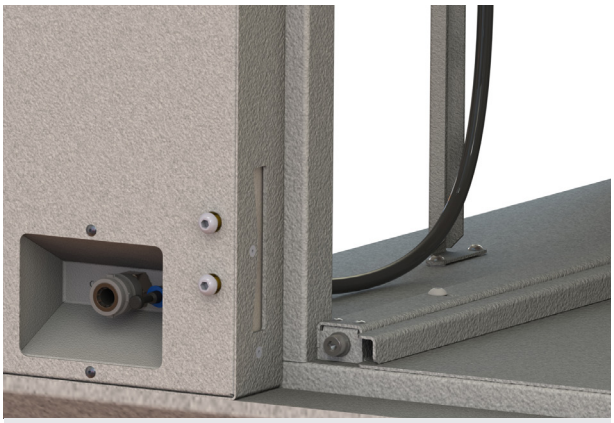
Shut down the ventilation system and open the service door.

Handle the filter very carefully. It is essential to not touch the filter media. The media is extremely sensitive and the slightest touch of the media can lead to leakage.

Place the new filter carefully into the clamping device. Be careful not to damage the filter gasket. The gasket should be placed on the outlet side.

Use a hex key (5 mm) to tighten the screw until the gasket is compressed about 30 % or maximum 2,5 Nm.

Close the service door and the pressure-reliefing hinge to seal the housing, restart the ventilation system.



Tightening screw for filter clamping, use a torque wrench for optimal gasket compression.

HEPA-FILTER CHANGE

Camfil recommends protective equipment like overalls, gloves and face masks when changing filters. Always check local regulations before changing filters.

Shut down the ventilation system and open the service door.

Untighten the filter clamping device with a hex key (5 mm) and remove the used filter.

See instructions for installing new filter above. The used filter must be disposed of according to local regulations.

Pressure-relieving hinges; Designed to avoid shearing damage to the service door gasket. Needs to be closed after the service door has been opened and closed.