



# Installation, Operation & Maintenance

## AXO-HEPA

Adjustable Vanes Swirl Diffusers With HEPA Filter

Last Revision 2020-09-19



## INTRODUCTION

EffectiV HVAC manufactures and supplies high quality, top-performing air distribution products and other HVAC products. EffectiV 's unique ceiling air diffusers allow Engineers, Designers to answer specific architectural and performance needs. EffectiV diffusers effectively address common comfort issues and help improve the overall energy efficiency of HVAC systems. We provide new solutions to old problems and ultimately facilitate building operators' task of keeping everyone happy.

EffectiV HVAC Inc. is the exclusive supplier of MADEL® products in the US and Canada. We have adapted some of MADEL® 's most amazing products to North American standards and we keep them in stock in our Montreal, Canada facility. Other MADEL® products can also be ordered as needed.

We thrive on supplying only the best quality products to help improve comfort, performance, interior design and energy efficiency. We fully stand behind our products performance and quality.

## WE WANT TO HEAR FROM YOU

You love our products, or maybe there's something you don't like? You have an idea of how to improve installation or usability?

Whether you have a question, suggestion or comment, we'd love to hear from you!

Installers and Operators' input is very valuable to us. Please call us at 1-844-375-3885 (Toll Free) or email us at [info@effectiv-hvac.com](mailto:info@effectiv-hvac.com) to give us your feedback.

## RECEIVING MATERIALS

Diffusers and plenums must be inspected for shipping damage on delivery. The diffuser faces are individually wrapped and packed multiple faces per box. Any damaged box should be inspected and its content unpacked. If any shipping damage is found, report it immediately to the carrier and make sure it appears in writing on the bill of lading.

Diffusers and plenums should be stored in a dry and clean indoor location and multiple pallets should not be stacked.

Boxes and pallets should be handled gently in order to avoid unreparable bends, bumps and scratches.

## INSTALLATION

### AXO-HEPA Adjustable Vanes Round Swirl Diffusers with HEPA Filter

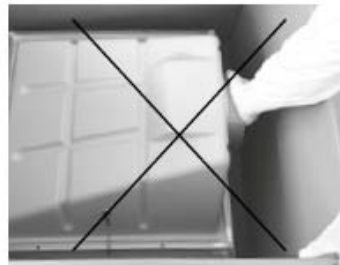
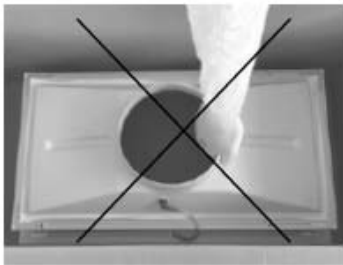
Important note: procedures listed into this manual should be carried out by qualified personnel and we recommend using relevant individual protection devices as advised by local legislation.

## 1) HANDLING



To avoid any possible damage to the filters during the installation of the housings, we recommended to keep the filters outside the installation area, in a safe place.

- Grab hold of the sides of the terminal filter hood's aluminium frame
- DO NOT damage the plenum and the exposed flange.





2) REMOVE THE PROTECTIVE FILM

**CASE A**

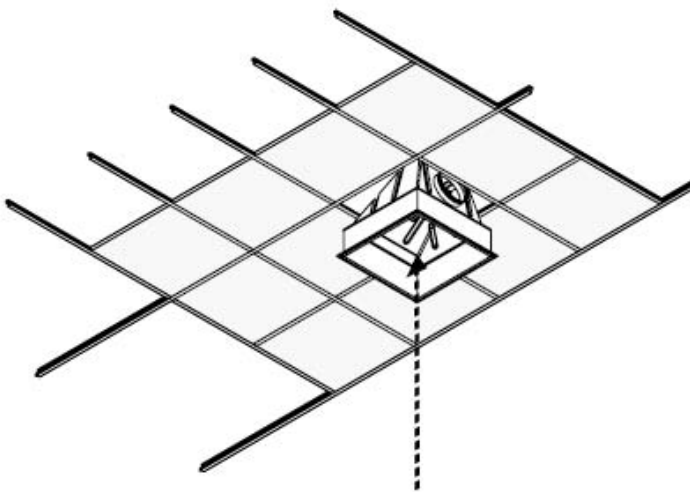
- Only remove the spigot film <sup>1)</sup>
- Removal of the film below <sup>2)</sup> ONLY BEFORE the filter installation

**CASE B**

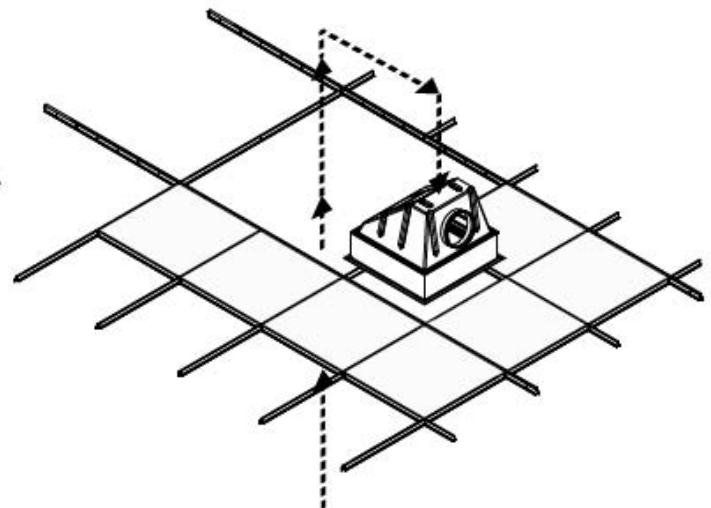
- Removal of both films <sup>1-2)</sup>



CASE A



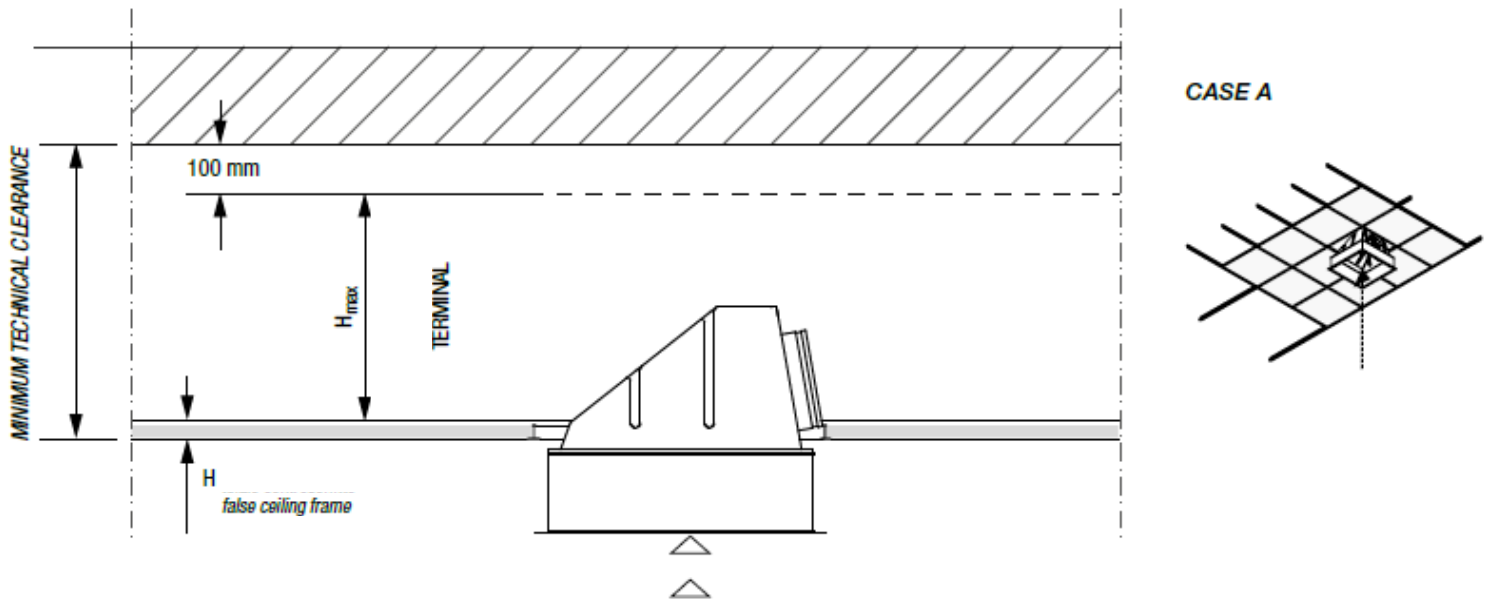
CASE B



### 3) ASSEMBLY

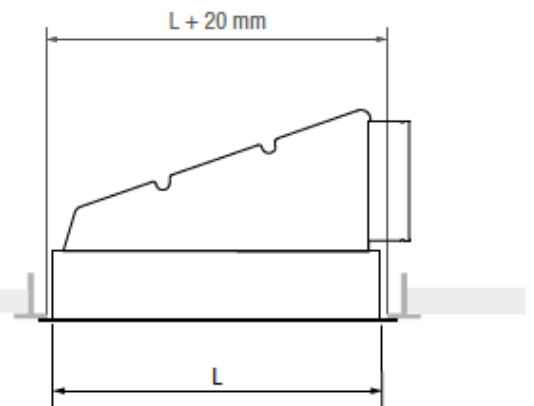
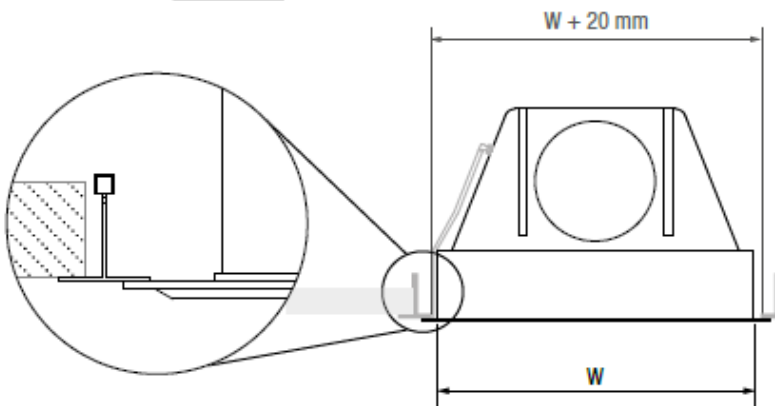


Before assembly, check the proper orientation and the size of the supply duct.



DIMENSIONS OF THE CUT OUT IN THE FALSE CEILING

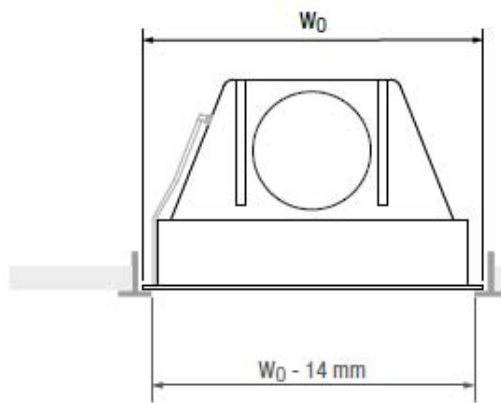
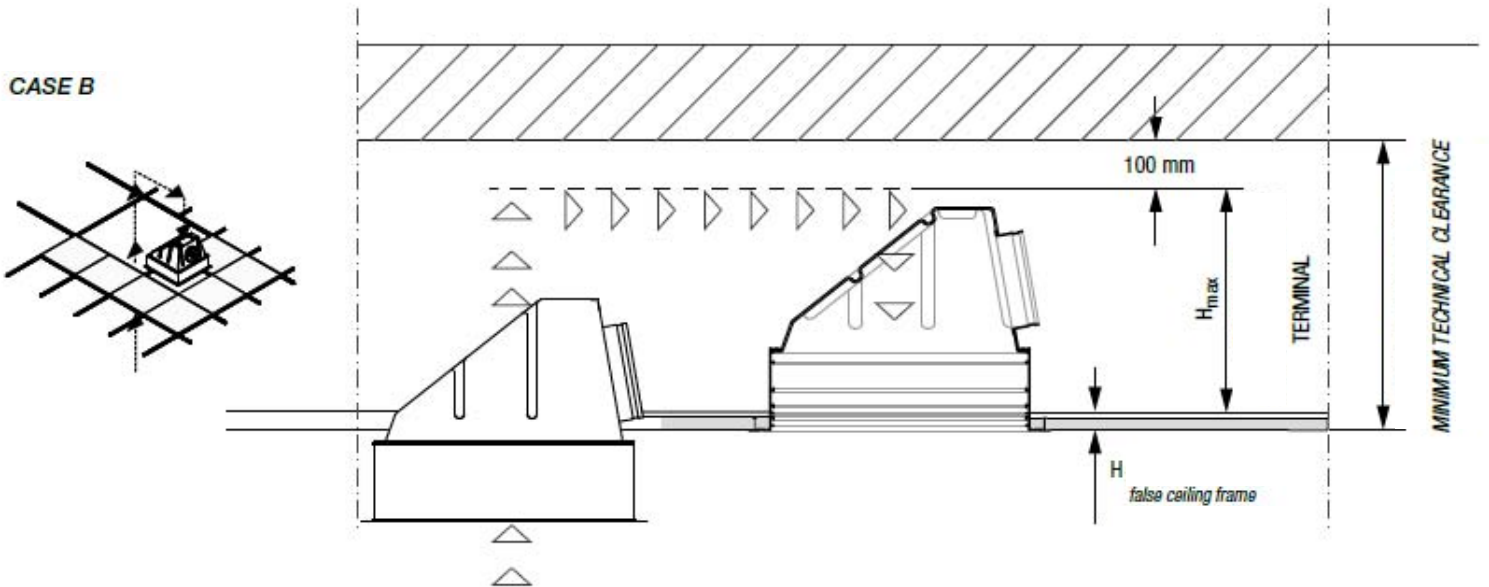
DIMENSIONS OF THE CUT OUT IN THE FALSE CEILING



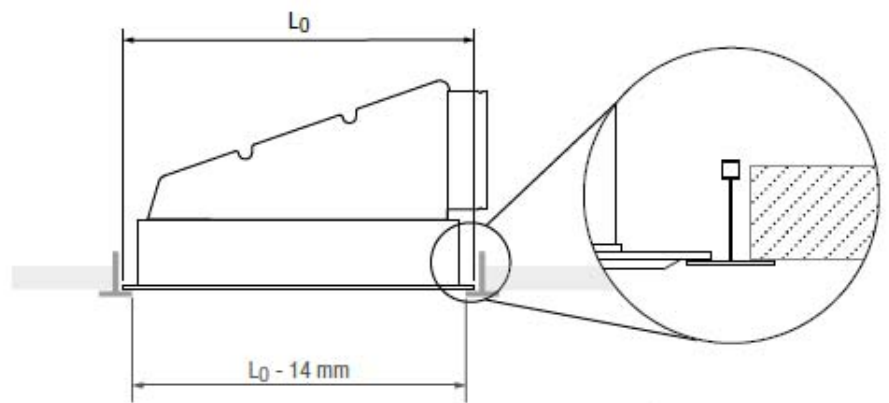
MINIMUM TECHNICAL CLEARANCE FOR ASSEMBLY

$$H_{\max} \text{ cabinet} + H \text{ false ceiling frame} + 100 \text{ mm}^*$$

\* Minimum tolerance recommended for installation



DIMENSIONS OF THE CUT OUT IN THE FALSE CEILING



DIMENSIONS OF THE CUT OUT IN THE FALSE CEILING





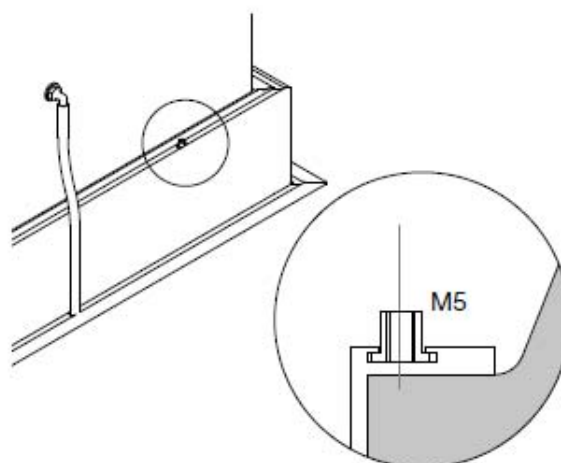
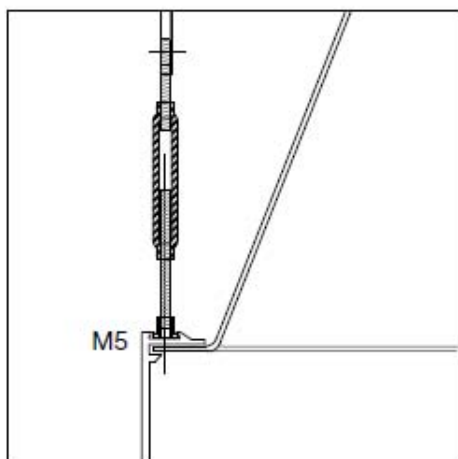
#### 4) ANCHORING AND POSSIBLE FIXINGS

Fix the hood without filter

- to the concrete ceiling A
- or to a proper supporting stucture B

A

- By means of 4 M5 threaded rods, screwed to the relevant bushes on the upper part of the profile (1).

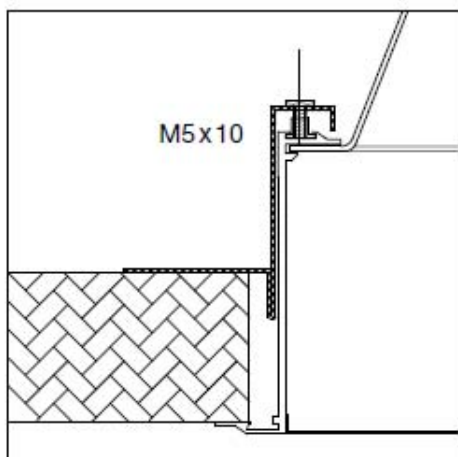


1

M5 inserts for threaded rod

B

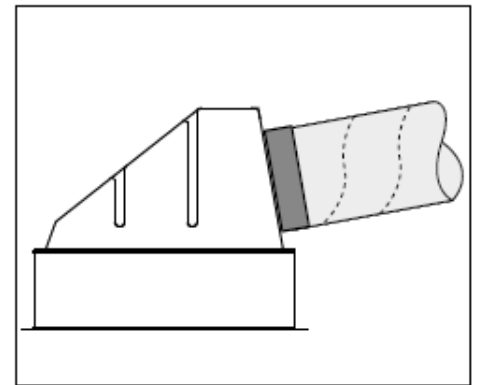
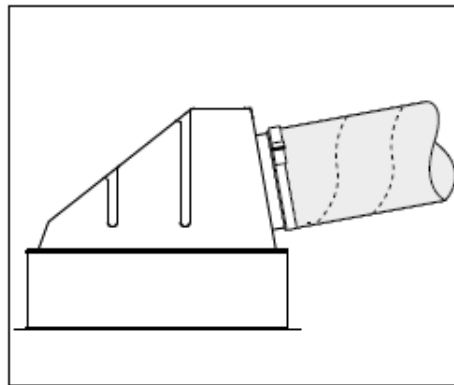
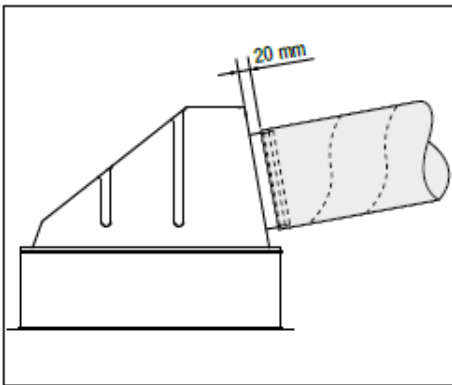
- Installation with brackets



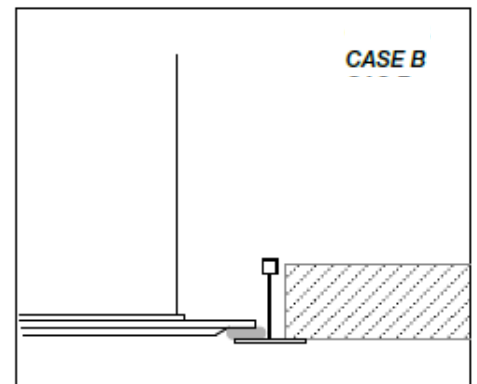
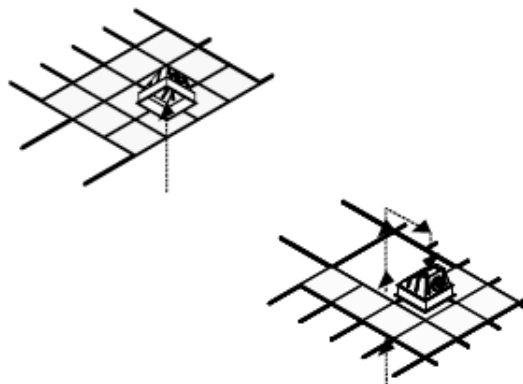
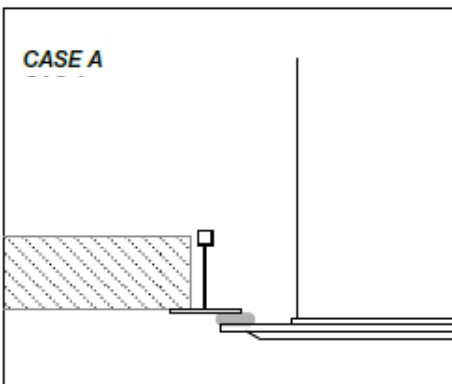


We recommend to position the flexible duct at least 20 mm away from the connection between the plenum and the spigot. (See figure below)

- Connect the plenum spigot with the flexible duct and secure it in place with a clamp.
- Secure the coupling between the spigot and the flexible duct with insulating tape to avoid leaks.



Apply polyurethane sealant between the terminal filter hood and the ceiling





## 5) CLEANING THE TERMINAL FILTER HOOD



*Before installing the filter clean the interior surfaces of the plenum and frame using a suitable cleanser.*

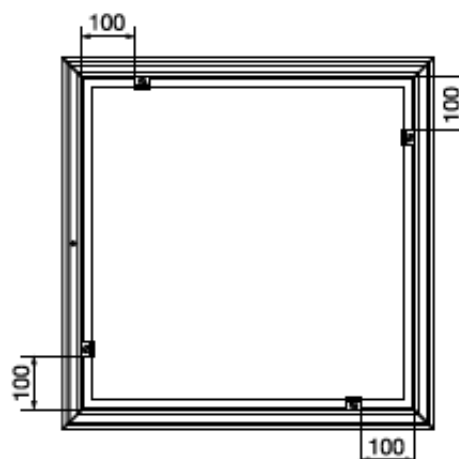
## 6) FILTER INSTALLATION



*We recommend careful visual inspection of the filter before installation.*

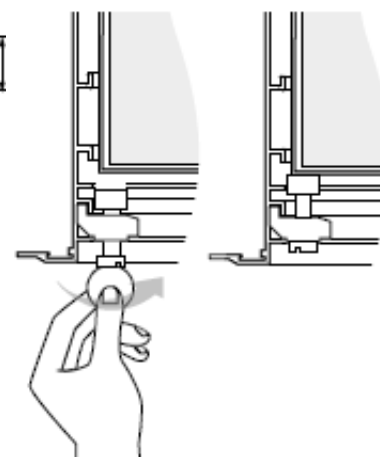
1. Handle the filter carefully by the frame only; do not press on the protective screen of the filter pack.
2. When handling the filter make sure you wear suitable gloves and mask (only when removing used filter); do not use tools that could damage the filter (pliers, scissors, screwdrivers etc.), or if strictly necessary handle them carefully.
3. Pay special attention to the gasket, which must be unbroken before installation.
4. Bring the filter, still in its bag, close to the cabinet.
5. Open the bag and take the filter out, taking care you don't damage its seal.
6. Follow the instructions shown in the below pictures 1 and 2 for the installation of the filter clamps.

(Fig. 1)



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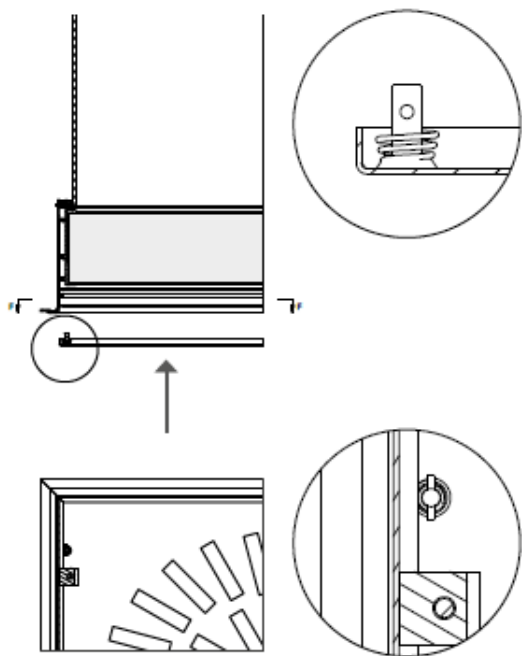
(Fig. 2)



- Place the fixing devices in the groove of the aluminium frame, placing them about 100 mm from the corners (fig. 1)
- Tighten the filter clamps all the way down (fig. 2)

## 7) FIXING THE PANEL

- *Install the diffuser panel (cleaning it beforehand with a suitable cleanser), just rotating its locking devices by 90° using a screwdriver.*



## 8) LEAK-TEST



### OBJECTIVE

Check for leaks in the filter system and cabinet. This validation test must be performed by qualified personnel.

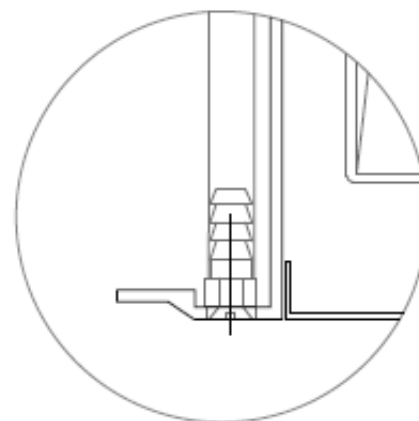
### GETTING STARTED

1. Install the filter as shown in point 5;
2. File away the individual certificate which should be kept;
3. Supply the cabinet and activate the flow to the room (previously cleaned) until you achieve a stable level of cleanliness in accordance with ISO 14644-4.

### TIPS DURING THE TEST

1. Make sure the photometer in use has a stable ZERO to avoid false readings;
2. If a leak is detected near the perimeter of the system, separate the area being tested from the external environment using screens and check whether the readings do not depend on induction effects (perimeter vortices, Venturi effect).

Leak test port



Optional tests	Reference in ISO 14644-3:2005			Referenced in
	Principle	Procedure	Apparatus	
Installed filter system leak test	4.2.4	B.6	C.6	ISO 14644-2

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial data. This includes not only sales and purchases but also expenses, income, and any other financial activities.

The second part of the document provides a detailed breakdown of the accounting process. It starts with the identification of the accounting cycle, which consists of eight steps: identifying the accounting cycle, analyzing and journalizing the transactions, posting to the ledger, preparing a trial balance, adjusting the accounts, preparing financial statements, and closing the books. Each step is explained in detail, with examples and practical advice.

The third part of the document focuses on the preparation of financial statements. It covers the balance sheet, the income statement, and the statement of cash flows. It explains how these statements are derived from the accounting records and how they provide a comprehensive view of the company's financial health.

The fourth part of the document discusses the importance of internal controls. It outlines various control procedures, such as segregation of duties, authorization, and documentation, which are essential for preventing errors and fraud. It also provides tips on how to design and implement an effective internal control system.

The fifth part of the document covers the topic of tax accounting. It explains the basic principles of tax accounting, including the determination of taxable income and the calculation of tax liability. It also discusses the various tax deductions and credits that are available to businesses.

The sixth part of the document discusses the importance of budgeting and financial forecasting. It explains how a budget can be used to plan for the future and how financial forecasting can help a business make informed decisions. It also provides a step-by-step guide to developing a budget and forecasting financial performance.

The seventh part of the document covers the topic of cost accounting. It explains how costs are classified and how they are used to determine the cost of goods sold and the cost of services. It also discusses the various methods of cost accounting, such as job costing and process costing.

The eighth part of the document discusses the importance of financial ratios. It explains how ratios can be used to analyze a company's financial performance and to compare it with other companies in the industry. It also provides a list of common financial ratios and explains how to interpret them.

The ninth part of the document covers the topic of financial statement analysis. It explains how financial statements can be used to evaluate a company's financial health and to identify potential risks and opportunities. It also provides a step-by-step guide to performing a financial statement analysis.

The tenth part of the document discusses the importance of financial reporting. It explains how financial statements are prepared and how they are used to provide information to investors, creditors, and other stakeholders. It also discusses the various requirements for financial reporting, such as the Sarbanes-Oxley Act.

The eleventh part of the document covers the topic of financial statement fraud. It explains how financial statements can be manipulated and how this can lead to fraud. It also discusses the various signs and symptoms of financial statement fraud and provides tips on how to detect and prevent it.

The twelfth part of the document discusses the importance of financial statement audits. It explains how an audit is conducted and how it can help to ensure the accuracy and reliability of financial statements. It also discusses the various types of audits, such as internal audits and external audits.

The thirteenth part of the document covers the topic of financial statement restatements. It explains how a restatement is required and how it can be avoided. It also discusses the various consequences of a restatement and provides tips on how to handle it.

The fourteenth part of the document discusses the importance of financial statement disclosures. It explains how disclosures are required and how they can help to provide a more complete picture of a company's financial health. It also discusses the various types of disclosures, such as related party transactions and contingent liabilities.

The fifteenth part of the document covers the topic of financial statement comparability. It explains how comparability is important and how it can be achieved. It also discusses the various factors that can affect comparability and provides tips on how to ensure it.

The sixteenth part of the document discusses the importance of financial statement consistency. It explains how consistency is important and how it can be achieved. It also discusses the various factors that can affect consistency and provides tips on how to ensure it.

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