airtècnics

# Filtration Catalogue
# Air Purification and Disinfection

# AIRTÈCNICS

**1986** Airtècnics was born as a ventilation products commercialisation company, focused on the sale of fans and ventilation boxes.

**1989** Our company is professionalised in the design and production of air curtains, air handling units, ventilation boxes, ventilation filters, axial and centrifugal fans and OEM equipment.

**1993** It is fully integrated into the Rosenberg Group, a multinational company dedicated to the design, manufacture and distribution of ventilation and air handling equipment and components with manufacturing plants, subsidiaries and distributors in more than 50 countries.

**1997** Expansion of the first production plant located in Castellar del Vallès (Barcelona). Since then, facilities have not stopped growing to the current 5200 m2 distributed in two industrial warehouses.

**2009** Creation of a new range of patented decorative air curtains present all around the world. ZEN curtains are the only ones on the market with the highest level of customisation.

**2011** Commitment to the environment by investing in renewable energies through the installation of photovoltaic panels and the introduction in the catalogue of high efficiency air curtains with heat pump.

**2018** Digitalisation of products through the Building Information Modelling (BIM) platform for commercial use. Launch of a complete range of control insect air curtains.

**2019** Airtècnics introduces in its catalogue disinfection products which are developed due to the current and future hygiene needs that society is facing.

# INDEX




# TECHNOLOGY

## Filtration

Filtration is a system for retaining particles present in the environment such as dust, pollen, bacteria, viruses, volatile organic compounds or gases, among others; and according to their retention capacity and construction, they are divided into various categories.

Their main use is for the improvement of air quality in various sectors such as hospital, pharmaceutical, industrial, public, transport or in short, any space that requires the elimination of pollutants.

## Classification

### ISO 16890 Standard

This standard replaces from 2019 the European EN 779 and American ASHRAE 52.2 in order to be used as a single standard worldwide for the unification and simplification of classification criteria and effectiveness.

The determination criteria of ISO 16890 is determined by the fine particulate matter used in air quality assessment tests. This classification is made based on the quantity (greater than or equal to 50%) and the size of the particles retained:

- 1 µ (micron) = 0,001 mm (= PM1)
- 2,5 µ = 0,0025 mm (= PM2.5)
- 10 µ = 0,01 mm (= PM10)

| Classification | EN 779 Standard | ISO 16890 Standard | | | |
|---|---|---|---|---|---|
| | Type | ISO ePM1 | ISO ePM2.5 | ISO ePM10 | ISO large |
| Large particles (sand, hair, pollen, dust) | G1 | | | | |
| | G2 | | | | |
| | G3 | | | | > 50 % |
| | G4 | | | | > 60 % |
| Medium particles (bacteria, fungi, mould spores, pollen) | M5 | | | > 50 % | |
| | M6 | | > 50 % | > 60 % | |
| Fine particles (viruses, nanoparticles, exhaust particles) | F7 | > 50 % | > 65 % | > 85 % | |
| | F8 | > 65 % | > 80 % | > 90 % | |
| | F9 | > 80 % | > 90 % | > 95 % | |

### Pre-filters:

Pre-filters are a system that prevents the passage of large particles such as sand, dust,... They are specially designed to extend the service life of absolute filters.

### Compact filters:

Compact filters made of fibreglass and galvanised steel frame, cardboard or plastic. They are used in installations that require fresh, clean air to protect against contamination and are identified as high efficiency filters M6, F7, F8 and F9 according to EN 779.

## EN 1822 Standard

Corresponds to absolute filters, providing information on their classification and efficiency.

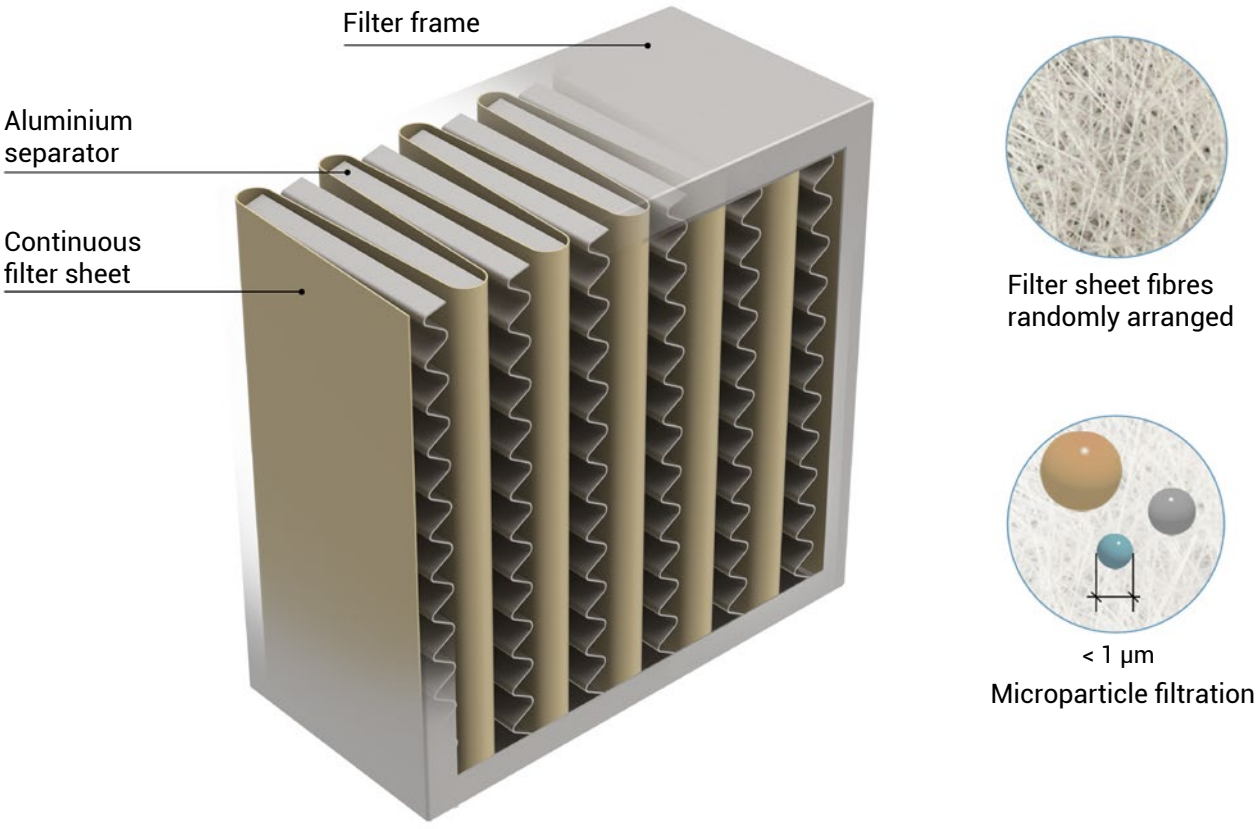
### EPA:

They are those capable of retaining particles in suspension of a size of less than one micron: germs, viruses, bacteria, or aerosols, among others. They reach a retention of 99.5%.

### HEPA:

HEPA filters are a system for retaining volatile particles present in the air, generally made of fibreglass. These randomly arranged fibres are extremely fine and create a mesh-like lattice that retains contaminating compounds.

These absolute filters are effective in keeping the air free of dust, pollen, dust mites, viruses, bacteria, and fine particles measuring less than 0.001 millimetre.




### ULPA:

Ultra-low penetration filters. These filters have the highest retention capacity of all the absolute filters, corresponding to the U15, U16 and U17 classification, reaching a retention of 99.999995% of the particles.

| Classification | Type | Retention efficiency |
|---|---|---|
| EPA: high efficiency filter | E10 | ≥ 85 % |
| | E11 | ≥ 95 % |
| | E12 | ≥ 99,5 % |
| HEPA: very high efficiency filter | H13 | ≥ 99,95 % |
| | H14 | ≥ 99,995 % |
| ULPA: Ultra Low Penetration Filter | U15 | ≥ 99,9995 % |
| | U16 | ≥ 99,99995 % |
| | U17 | ≥ 99,999995 % |

## No applicable regulations

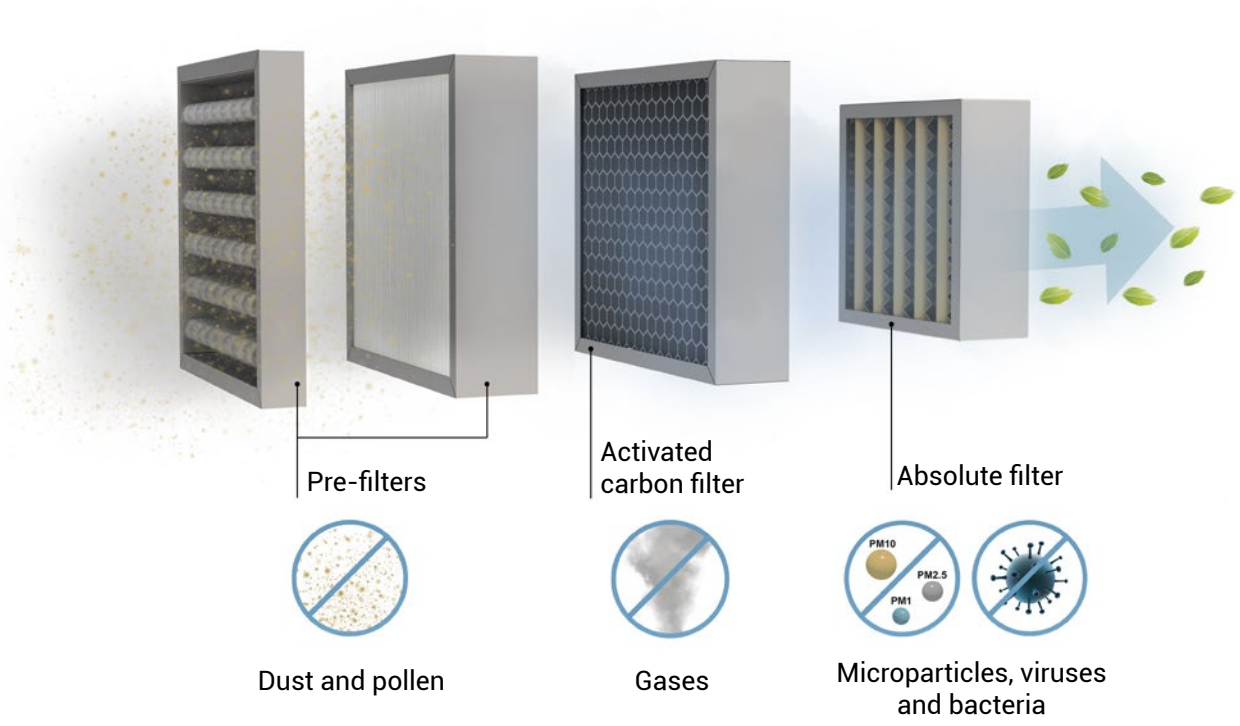
Activated carbon:

Activated carbon filters are designed to eliminate unwanted gases and odours. They are manufactured with a material that is characterised by a large filtration surface thanks to the micropores that make it up. Due to its high microporosity, the surface area of this material can be up to 2,500 m2/gr.

They must always be associated to a high efficiency filter to optimize its efficiency, durability and to maximize the purifying effect.

Airtècnics professionals will be able to advise you on which product of the wide range of filtration units and filters best fits to cover all the hygiene needs that your installations require.

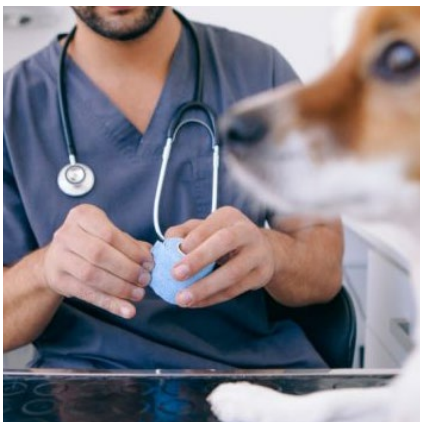
# Filtration Phases



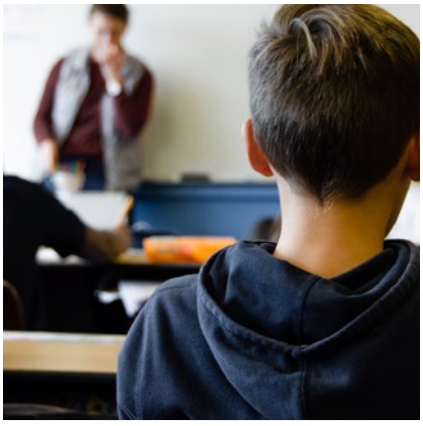
# APPLICATIONS

Healthcare Sector

Laboratories



Veterinary Clinics



Education Sector

Means of Transport

Private Sector

Shops

Domestic Use

Food Industry


## KleenBox

KleenBox is a high efficiency filtration equipment.

It is ideal for installation in ventilation ducts in false ceilings.

# Technical Features

High efficiency air purification and filtration unit with three filtration stages:

- G4 pre-filter (ZLM) according to EN779 standard. Filter for large particles according to ISO 16890.
- Intermediate filter F7 according to EN779 standard. Fine particle filter according to ISO 16890.
- H14 absolute filter with 99.995% efficiency according to EN1822 standard and sealed with polyurethane for 100% air filtration.

Continuous recirculation of indoor air through the three stages of filtration guarantees air purification by removing particles and pollutants such as: dust, pollen, spores, bacteria, viruses and fine particles PM10, PM2.5 and PM1. On request it can incorporate an activated carbon filter to eliminate gases and odours.

Aluminium profile structure soundproofed with galvanised steel sandwich panels with 25mm of fibreglass acoustic insulation and sound attenuator at the fan inlet that absorbs 55% of the noise according to EN12086 standard. Easy-access register panel for filter replacement.

Backward blade fan with highly efficient and very low consumption external rotor EC motor, electronically adjustable 0-100% via 0-10V.

Wall-mounted controller with ON/OFF switch, potentiometer for stepless step-by-step regulation of the air flow rate 0-100% and visual indicator for dirty filter alarm via differential pressure switch.

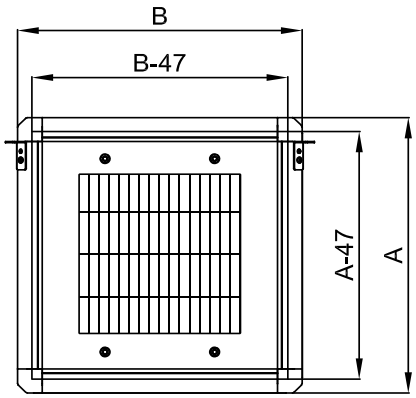
Prepared for installation in ducts in false ceilings.

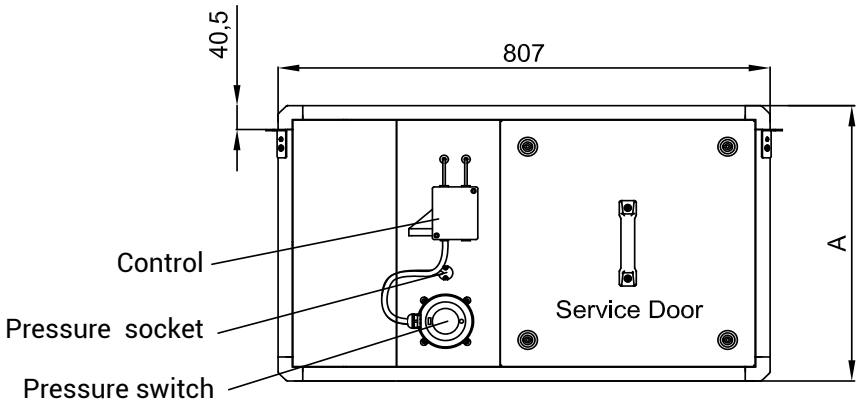
| Unit | Airflow (*) ($m^3/h$) | Consumption (W/h) | Intensity (A at 230V) | Weight (Kg) |
|---|---|---|---|---|
| **46/46** | 550 / 720 | 266 | 1,19 | 38 |
| **46/76** | 650 / 1010 | 266 | 1,19 | 45 |
| **76/76** | 750 / 1320 | 222 | 0,99 | 55 |

(*) Values: Nominal flow rate filter 7 maximum flow rate unit

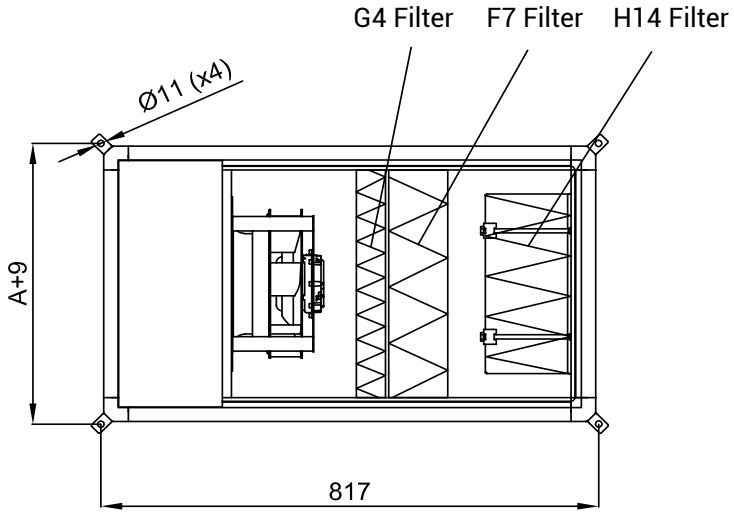
## Dimensions

The unit has three different sizes, from 467x467x807mm to 767x767x807mm. Its compact design makes it ideal for installation in ducts in false ceilings.




| Unit | A | B |
|---|---|---|
| KleenBox 46/46 | 467 | 467 |
| KleenBox 46/76 | 467 | 767 |
| KleenBox 76/76 | 767 | 767 |



# Maintenance


The service door provides easy access to the filters contained in the unit. In this way, they can be cleaned and replaced.

# Accessories

*Flexible Joint*

The unit is designed for installation in false ceilings. For this type of installation, a flexible joint can be added to attach it to the ventilation ducts.

*Wheels*

*Safety Grille*

If you decide to install the unit in an exposed position, steel and silicone wheels can be fitted to facilitate transport and a safety grille can be fitted to both the suction and discharge.


## KleenBox Vertical

KleenBox is a high efficiency filtration equipment.

Its design and robustness make it ideal for moving between rooms between rooms or offices.

# Technical Features

High efficiency air filtration and purification unit with three stages of filtration:

- G4 pre-filter (ZLM) according to EN779 standard. Filter for large particles according to ISO 16890.
- Intermediate filter F7 according to EN779 standard. Fine particle filter according to ISO 16890.
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Continuous recirculation of indoor air through the three stages of filtration guarantees air purification by removing particles and pollutants such as: dust, pollen, spores, bacteria, viruses and fine particles PM10, PM2.5 and PM1. On request it can incorporate an activated carbon filter to eliminate gases and odours.

Aluminium profile structure soundproofed with galvanised steel sandwich panels with 25mm of fibreglass acoustic insulation and sound attenuator at the fan inlet that absorbs 55% of the noise according to EN12086 standard. Easy access panel for filter replacement. Optionally painted in RAL 9016.

Backward blade fan with highly efficient and energy-saving external rotor EC motor, electronically adjustable from 0-100% via 0-10V.

ON/OFF switch, potentiometer for infinitely variable adjustment of the air flow rate 0-100% and visual indicator for dirty filter alarm by means of integrated differential pressure switch.

2 metre Plug&Play power supply cable.

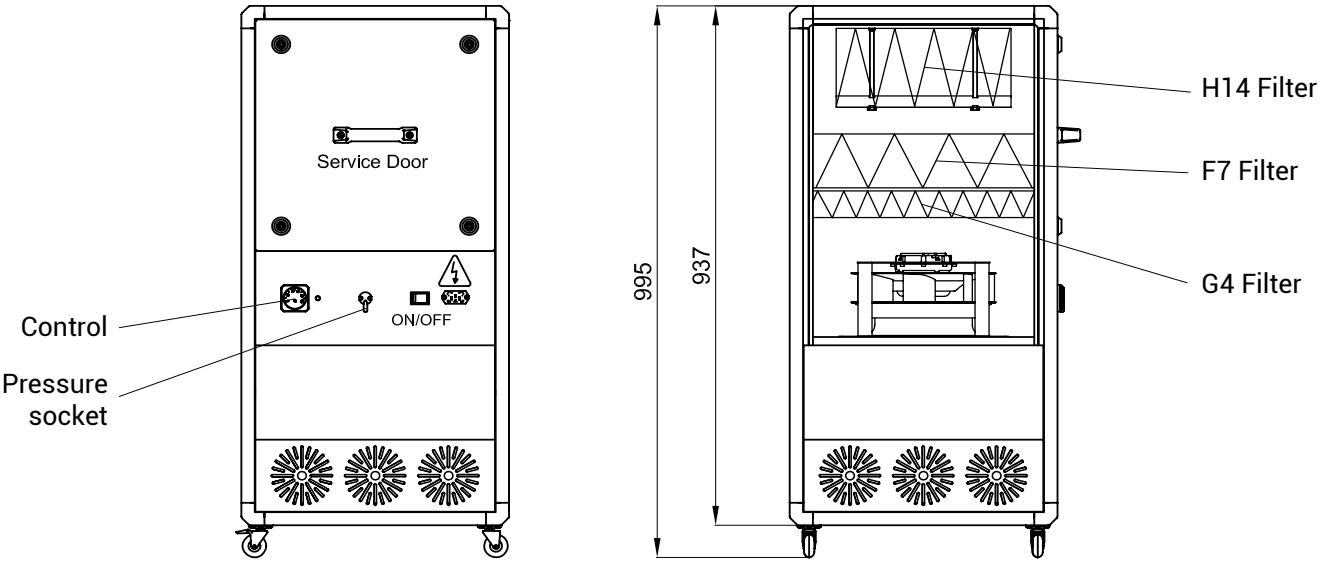
Plug&Play vertical unit with sturdy steel and silicone wheels with brake for easy moving and fastening.

| Unit | Airflow (*) ($m^3/h$) | Consumption (W/h) | Intensity (A at 230V) | Weight (Kg) | Noise level (6m) (dBA) |
|---|---|---|---|---|---|
| **46/46** | 550 / 720 | 266 | 1,19 | 38 | 41 |
| **46/76** | 650 / 1010 | 266 | 1,19 | 45 | 42 |
| **76/76** | 750 / 1320 | 222 | 0,99 | 55 | 43 |

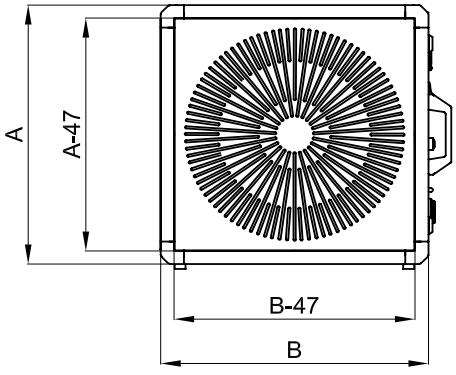
(*) Values: Nominal flow rate filter 7 maximum flow rate unit

## Dimensions

The equipment has three different sizes, from 467x467x807mm to 767x767x807mm. Its compact design makes it easy to install and easy to move.



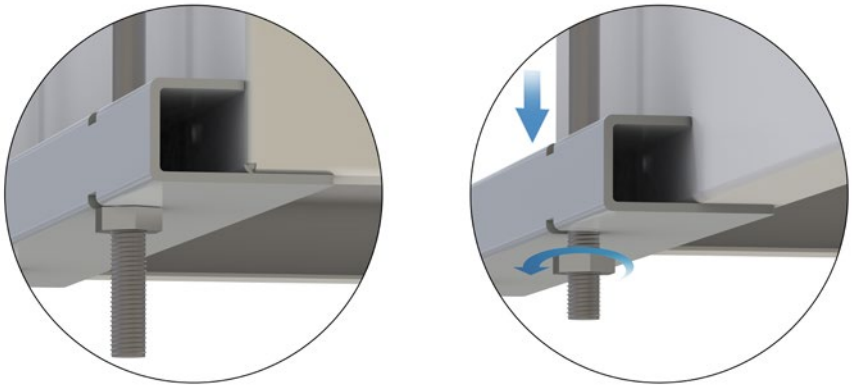

| Unit | A | B |
|---|---|---|
| KleenBox 46/46 | 467 | 467 |
| KleenBox 46/76 | 467 | 767 |
| KleenBox 76/76 | 767 | 767 |



# Maintenance


The service door provides easy access to the filters contained in the unit. In this way, the filters can be cleaned and replaced.

To change the filter, simply loosen the nut holding the filter angle until the filter can be removed.



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