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THE ISOLATOR

July is an exciting month for everybody where friends, family and loved ones reunites together to travel for the holiday season. 4th of July has been celebrated recently, a day that sparks up to bring hope, happiness and prosperity.

Welcome to our July 2023 of the Isolator, the latest monthly newsletter of Kinetics Middle East LLC. We are going through projects in UAE and Bahrain where the engineering solutions M/s. Kinetics has provided to these prestigious projects.

This edition showcases our expertise in the application of Ecology unit in HVAC along with a small look on to our product, Sound rated Acoustical doors & Gaskets.

YouTube webinar introduces our new addition to Kinetics Fixed Blade Acoustic Louver line-up.





AL FORSAN INTERNATIONAL SPORTS RESORT DEVELOPMENT, U.A.E

Kinetics Middle East LLC proudly been part of this prestigious project by supporting M/s. Force10 LLC, the main contractor for the project by supplying Acoustic products of Wall Panels and Acoustic spray for Noise Control Application.

Al Forsan International Sports Resort (Al Forsan) is a world leading sports, fitness, leisure and entertainment destination. Al Forsan is strategically located in Khalifa City, the heart of the Abu Dhabi 2030 Plan and just 10 minutes away from the Abu Dhabi International Airport

With many facilities, the Resort can host and cater for corporate bookings / Event for groups ranging from 10-15,000 people. Such events include conferences, team building events, family fun days, banquets, gala events, weddings, birthdays etc.

Source <https://www.bncnetwork.net/>

MARASSI AL BAHRAIN

Kinetics Middle East LLC provided the solution for Vibration and Noise Control for the project. Wide range of products supplied includes Vibration Isolators, Floating Floors, Acoustic Underlay & Flexible Connectors through our long-term partner in Bahrain region M/s. MOHAMMED FAKHROO AND BROS.

Marassi Al Bahrain is of a total built up area of approximately 1,252,743 square meters and it include a harbor for cruise liners and ships with fully integrated facilities, 1,980 meters of distinguished beaches that go around the city, a Central Garden that will span 93,000 square meters.

It features a traditional Souq which is a hub where heritage meets modernity boasting artistic and cultural elements, a business center that sits on 80,000 square meters, which will be a new concept that blends business, technology and prosperity



Source <https://air.bncnetwork.net/>



TECHNICAL DISCUSSION:

APPLICATION OF ECOLOGY UNITS IN HVAC



The Kitchen Ecology Unit (KEU), also known as the Pollution Control Unit (PCU), is a comprehensive filter arrangement designed to address various air pollutants generated in commercial kitchens. It is particularly suitable for establishments such as hotels, restaurants, hospitals, and food industry facilities.

The primary purpose of the KEU is to eliminate smoke, grease particles, and control odors from the exhaust air stream of kitchen hoods and exhaust fans. By doing so, it helps maintain air quality and provides an environmentally-friendly solution.

The KEU employs several components and techniques to achieve its objectives. Firstly, it effectively removes particulate contaminants, such as grease aerosols, moisture, and other particulates, from the exhaust air stream. This is accomplished through the use of electrostatic precipitators in combination with various stages of particulate filters. These filters can include metal washable filters, high-capacity bag filters, and high-efficiency pleated filters with a MERV (Minimum Efficiency Reporting Value) rating of 16. In some cases, lighter particulate loading may only require stages of particulate filters. However, it is crucial to regularly maintain, clean, and replace these filters as needed to ensure optimal performance and safety.

Secondly, the KEU tackles odors resulting from the release of volatile organic compounds (VOCs) during cooking operations. These VOCs are in the gas phase and cannot be effectively removed by the particulate contaminant solutions mentioned earlier. The most common solution for addressing odors is the use of activated carbon, typically applied in filtration cells such as metal cassettes or canisters. In some instances, a combination of activated carbon and other media may be employed.

The design of the filtration cells aims to achieve a residence time to effectively remove the odor-causing compounds. However, the specific configuration and residence time requirements depend on the cooking operations taking place within the kitchen.

Finally, the KEU incorporates a well-designed kitchen exhaust hood system that optimizes performance and energy efficiency. The selection and sizing of exhaust hoods are crucial to capture the plume effectively. The plume, which is the mixture of smoke, grease, and other pollutants, is raised by the heat generated during cooking.

The exhaust hood is strategically positioned to capture the plume, and the suction generated by the exhaust fan removes it at the same level. This ensures that the pollutants are efficiently extracted from the kitchen environment.

In summary, the Kitchen Ecology Unit (KEU) or Pollution Control Unit (PCU) is a comprehensive filter arrangement designed to remove smoke, grease particles, and control odors in commercial kitchens. It employs electrostatic precipitators, particulate filters, and activated carbon to address different types of pollutants. The KEU's design also includes a properly sized and positioned exhaust hood to effectively capture and remove the plume. By utilizing the KEU, commercial kitchens can improve air quality and reduce environmental impact.

Typical components in the Ecology Unit are

- Electrostatic Precipitator Filter
- Pre & Bag Filter
- Carbon Filter (Odour Control Section)
- Fan & Control Panel

Source <https://www.ruhaily.com>

PRODUCT HIGHLIGHT:

SOUND-RATED ACOUSTICAL DOORS & PERIMETER GASKETS

Kinetics acoustical wood doors are made with lab-tested noise control core materials and are finished in a variety of high-quality woods. Kinetics acoustical doors include a standard set of sound-rated gaskets that consist of head/jamb seals and sweeps.



Room isolation designs are only as good as their weakest link, and residential doors present several challenges that can be met with Kinetics' line of wood acoustical doors. First, the door itself, if not well-constructed, will transmit sound energy from one room to another. Second, air gaps around the perimeter of the door, if not sealed, are easy pathways for sound to transfer to adjacent spaces. Additionally, most sound-rated doors are made of metal and are not attractive in residential environments.



Kinetics offers custom-manufactured STC-49 and STC-35 sound-rated acoustical doors which have been specifically designed for residential environments and offer a wide variety of standard and custom wood finishes, sizes, and acoustical seals.

Description

Noise Ratings

STC 49	KWAD-49 Provides superior performance for critical room isolation designs
STC 35	KWAD-35 Provides a cost-effective improvement over typical residential doors
STC 15-20	Typical residential doors

Technical Information

Wood	Maple
Doors	36" x 80" 36" x 84"
Thickness	1-3/4"
Jamb	Maple, up to 6-3/4" deep, pre-hung
Hinges	Three 4-1/2", fully mortised, heavy-duty ball bearings, brushed stainless steel
Weight	7.8#/sq ft (STC 35) 9.2#/sq ft (STC 49)

Perimeter Gasketing

Kinetics offers a variety of standard and optional perimeter gasketing products to seal the air gaps between the door, the door jamb, and the floor.

Standard Products

Pre-hung assemblies include all perimeter gasketing and consist of the following:

- ZDSL-478AA standard jamb seals (for sides & top)
- ZDSW-369A automatic sweep (fully mortised)
- ZDSD-564A saddle (if necessary)

Slab-only assemblies include factory-assembled sweeps. Saddles and seals are also furnished for field installation.

Finishes

Standard finishes are anodized aluminum.

Optional finishes include Bronze, Gold Anodized, and Dark Anodized Bronze. (Not all finishes are available for each item.)

Consider these and other materials, available for purchase separately, to retro-fit existing doors for improved sound control in the field.

Source <https://kineticsnoise.com/home/sound-rated-acoustical-doors>



Kinetics YouTube –

KCFL Airfoil Blade Acoustic Louver Introduction Part 2

Kristen Neath, Kinetics Canadian National Sales Manager for the Commercial, Industrial, and Environmental Markets, talks about a new addition to Kinetics Fixed-Blade Acoustic Louver line-up.

<https://www.youtube.com/watch?v=4kJoFmztrN4>



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