

PRESENTING



ENERGY SAVING NETS FROM



C  NTINE WM[®]

THE MOST PRACTICAL,
STRAIGHTFORWARD, &
EASY SOLUTION TO
***REDUCE HVAC ENERGY
CONSUMPTION
&
IMPROVE AIR QUALITY***



ITC HOTEL
RESPONSIBLE LUXURY



ITC ROYAL BENGAL
KOLKATA

ITC ROYAL BENGAL AWARDED BEST ENERGY EFFICIENT COMMERCIAL BUILDING/ HOTEL

AWARDED BY



Confederation of Indian Industry

NATIONAL ENERGY EFFICIENCY
CIRCLE COMPETITION 2024

hotelier
india

Business Operations Development Appointments F&B Leadership



ITC Royal Bengal has been awarded the 'Best Energy Efficient Commercial Building/Hotel' at the CII National Energy Efficiency Circle Competition 2024. This accolade acknowledges ITC Royal Bengal's dedication to sustainability, state-of-the-art energy efficiency practices, and unwavering commitment to ITC Hotels' ethos of responsible luxury.

ITC Hotels have always prioritised environmental stewardship without compromising on luxury and guest comfort. ITC Royal Bengal's recognition in this national competition accentuates its status as a paragon of sustainability. As a LEED platinum-certified building, ITC Royal Bengal underscores its steadfast adherence to global standards in eco-friendly design and operations.

ITC Royal Bengal has made significant strides in energy efficiency and decarbonisation, aiming for Net Zero Carbon. The hotel ensures exceptional energy performance by integrating advanced HVAC and electrical technologies. Recent initiatives include replacing diesel boilers with electric ones, installing heat pumps for hot water, using electronically commutated fans and patented Continewm Nets for air handling units, implementing automated tube cleaning for chillers, and converting multiple laundry and kitchen equipment to electrical heating. Additionally, IE5 motors are used for water management, further enhancing energy optimisation.

SOURCE

hotelier
india



Ryuji Sakai

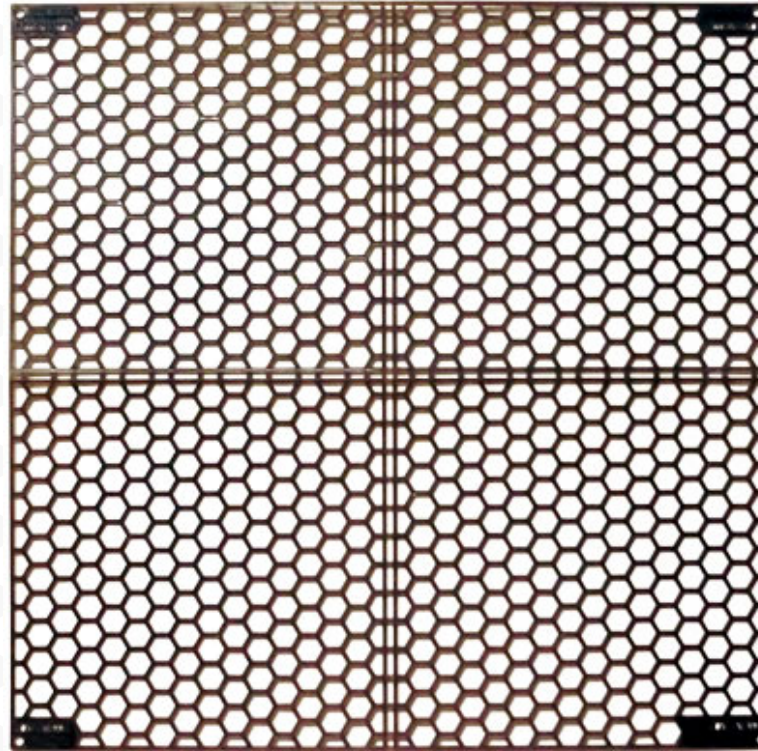
Inventor

CONTINEWM® Japan

Ryuji Sakai, the inventor, created this unique product using **special ceramics**, **composed of minerals uniquely found only in the underground mines of Japan.**

He invented **Cell Fresh Net in 2012**, and since then the technology has improved multi-folds to become **CONTINEWM®** nets since 2016.

THE PRODUCT - CONTINEWM®



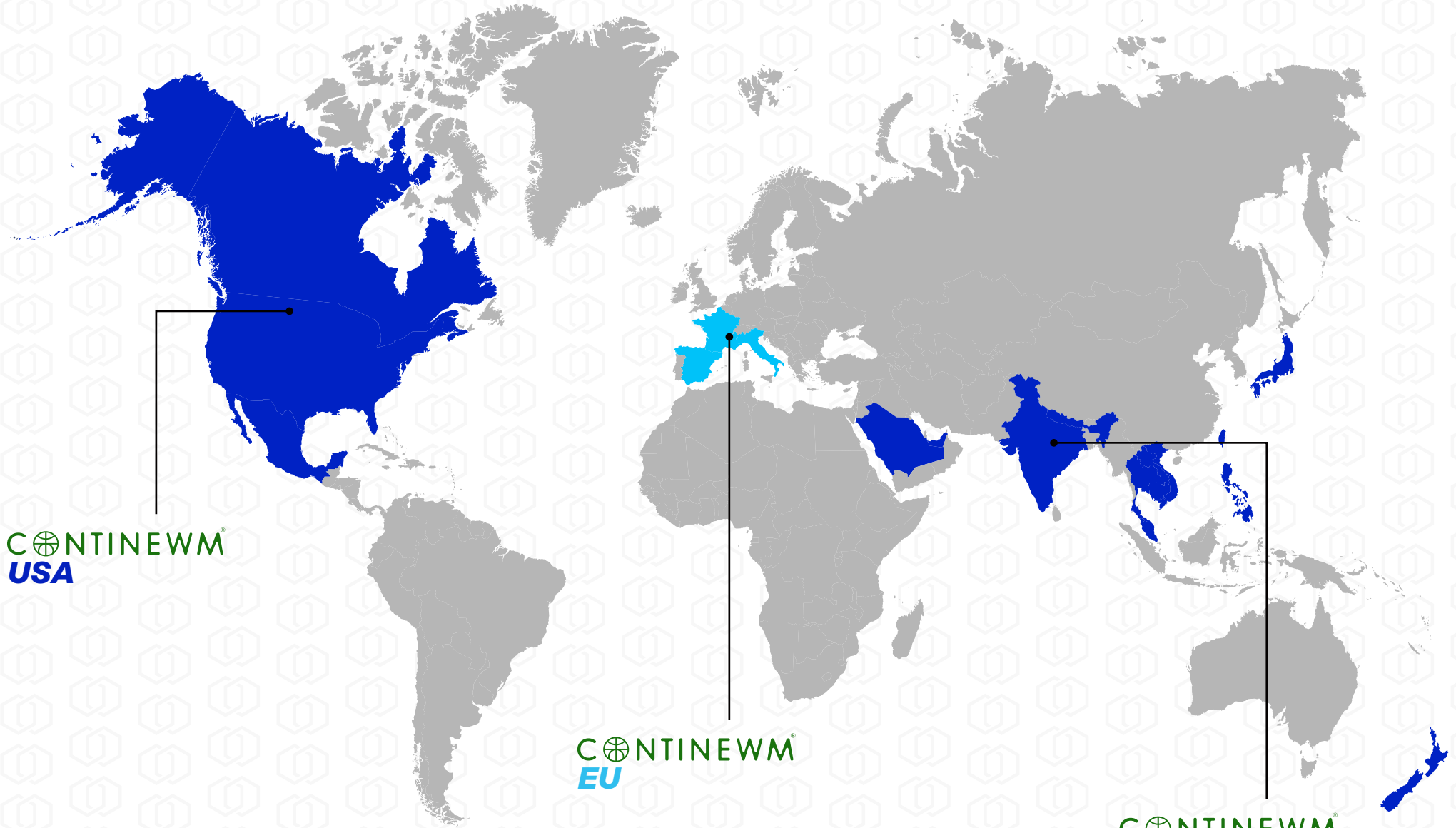
Material Natural ceramic embedded in polyethylene

Size 49 cm x 48 cm x 0.26 cm

Weight 220 g

Properties Far Infrared Rays emission & Negative Electrode

GLOBAL FOOTPRINT



CONTINEWM®
USA

CONTINEWM®
EU

CONTINEWM®
ASIA & MIDDLE EAST

26+ countries, and counting...

PATENTED IN JAPAN & USA



JAPAN PATENT

Since 2012

No. 1597440



USA PATENT

Since 2021

No. US11846437 B2

APPLICATIONS



Factories



Hospitals



Data Centers



Hotels



Commercial Properties



Airports



Malls



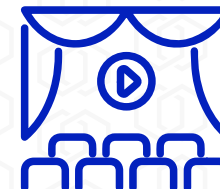
Pharma Industry



Schools



Cold Rooms



Convention Centers

VERSATILITY

SPECIALLY DESIGNED TO FIT ALL TYPES OF COMMERCIAL & DOMESTIC AIR CONDITIONING UNITS

- Fan Coil Units (FCUs)
- Air Handling Units (AHUs)
- Precooled Air Units (PAUs)
- Rooftop Units (RTUs)
- Floor mounted units
- Ceiling mounted units
- Cassette units
- Wall mounted units

BENEFITS



1 ENERGY EFFICIENCY

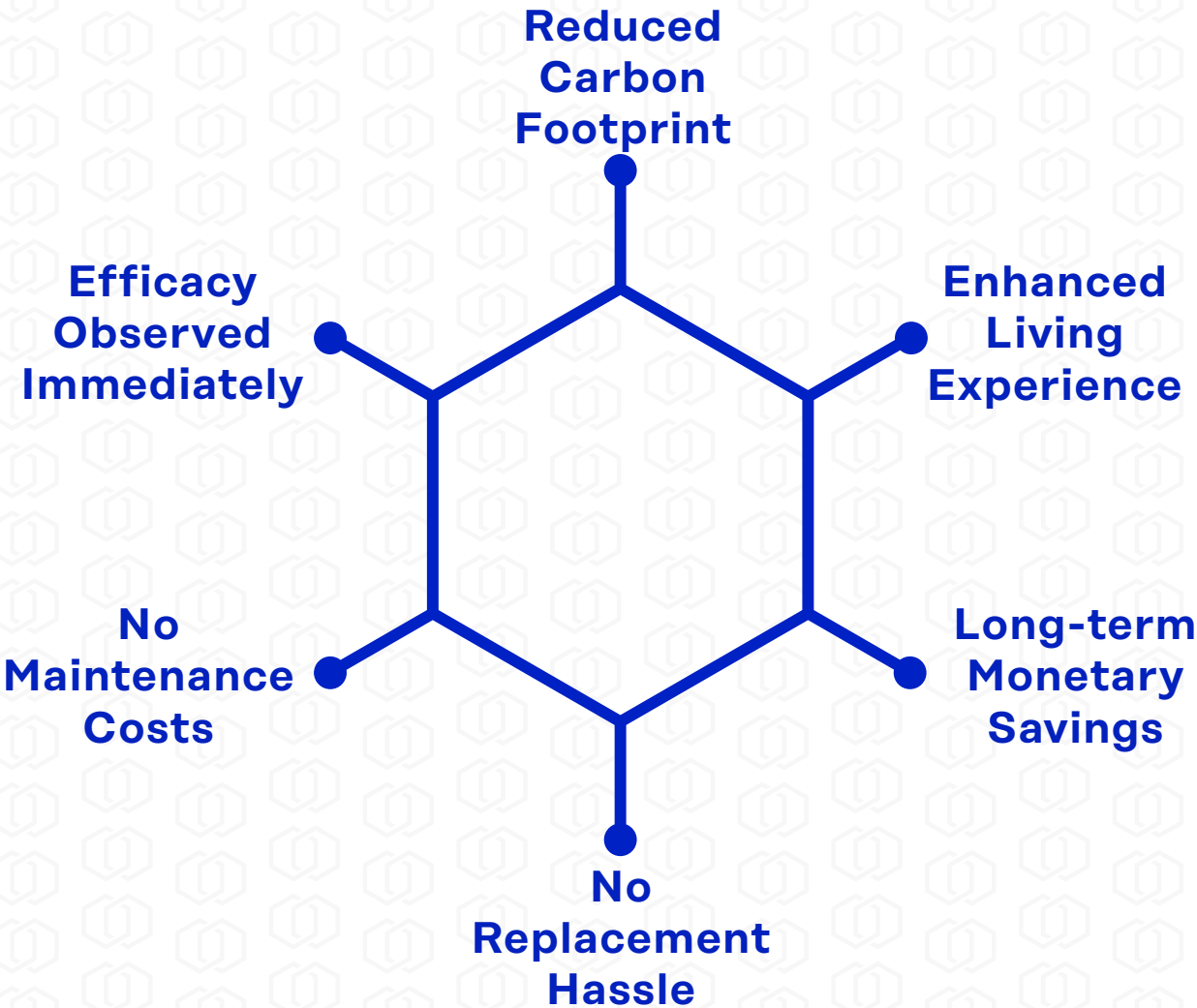


2 IMPROVED AIR QUALITY



3 HOMOGENEOUS TEMPERATURE

SPECIAL MENTIONS





OUR CONTRIBUTIONS IN THE INDIAN MARKET

2022 till date

ENERGY SAVINGS ON AIR CONDITIONING SYSTEMS (CHILLER & AHU) OF

21.2%

IN THE HOSPITALITY INDUSTRY



SUCCESSFUL INSTALLATIONS - HOTELS

ITC MAURYA	New Delhi, India
ITC ROYAL BENGAL	Kolkata, India
ITC SONAR	Kolkata, India
ITC GRAND CENTRAL	Mumbai, India
ITC MARATHA	Mumbai, India
ITC KOHENOOR	Hyderabad, India
ITC GRAND BHARAT	Gurgaon, India
ITC NARMADA	Ahmedabad, India
ITC GRAND	Goa, India
ITC MUGHAL	Agra, India
ITC WELCOME	Guntur, AP, India
ITC WELCOME	Bhubaneswar, India
ITC WELCOME	Amritsar, India
ITC WELCOME	Vadodara, India
ITC SHERATON	New Delhi, India

SUCCESSFUL INSTALLATIONS - CORPORATE OFFICES

ITC CPO Bangalore, India

ITC CPO Nadiad, India

ITC CPO Kolkata, India

ITC ITD Kolkata, India

SUCCESSFUL INSTALLATIONS - FACTORIES

ITC ITD Kolkata, India

ITC FOODS Hyderabad, India

ITC FOODS Guwahati, India

ITC PCPB Manpura, India

ITC PCPB Haridwar, India

ITC PSPD Bhadrachalam, India

PROOF OF CONCEPT (POC) IN PROCESS



INTERNATIONAL CLIENTELE

amazon

CapitaLand

JIM THOMPSON

Coca-Cola
BOTTLERS JAPAN INC.

 **TOYOTA**

Schneider
Electric

 **NISSAN**

KOMATSU


ACCOR

TECHNICAL EXPERTISE



Mr. Thomas Gal, CEO



Mr. Thomas Gal, CEO of Technic Electrical Engineering (Thailand), VP & Technical Head of CONTINEWM® Japan, and World Technical Assistance Head.

TESTIMONIALS - HOSPITALITY



ACCOR HOTELS

MEMO

From: Shanmugam Nanthakumar

TO: All Engineers, AccorHotels
Thailand, Laos, Cambodia and
Myanmar Hotels

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Email: shanmugam.nanthakumar@accor.com

Total Page(s) : 1 / 1

Date : 01/02/2019

Subject : Energy Saving – Air Condition Nets – Regarding

Copy: Bree CRESER/ Denis SCHOHN/
Robert CRESTANI

Dear Colleagues,

In our constant endeavor to adapt new technology to reduce energy consumption we have come across an interesting net which is **Natural mineral ceramic Far InfraRed Rays (FIR)** and embedded in a polyethylene frame to be use in any kind of air cooled air conditioning unit condensers.

We came across some tests done in few of the hotel, found to be effective, and reducing the consumption from 5% to 25% depending upon where we use. This also helps reduce our carbon footprint. Their testimonials varies from French Embassy building to hotels as in the attachment.

Attached herewith presentation on this with contact details. Our hotels are encouraged to contact **CONTINEWM** directly and make use of their services.

Once you start using this, please give us the feedback.

Best regards,


Shanmugam NANTHAKUMAR
VP, Engineering Services & Guest Technology
North East & South East Asia.


Denis SCHOHN
Senior VP, Design & Technical Services
Luxury, Asia Pacific



CONTINEWM® Nets ANANTARA Bophut Performance Monitoring Testimonial

Update : 3rd August 2018

Object : Endorsement of energy saving results at Anantara Bophut Koh Samui Resort

Client	Anantara Bophut - Koh Samui	Type	Villa resort - Test in Back Office - Split type
Conditions #1	Real Life occupation & utilisation	A/C Temperature setup #1	25°C
Complete resort Yearly CO₂ reduction	403 Tons	Energy Saving results	Average = 32.8%

Conditions #2	Real Life occupation & utilisation	A/C Temperature setup #2	23°C
Complete resort Yearly CO₂ reduction	581 Tons	Energy Saving results	Average = 47.2%

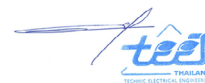
- Test result:**

- o Measurement of the performance by comparison of the electricity consumptions measured by electrical meters specifically installed on the Chief Engineer's office air conditioning.
- o Period: February 2018 (measures @25°C) & April - May 2018 - Hottest season in Thailand (measures @23°C)
- o Comparison done under strictly same conditions of occupancy and same meteorological conditions.
- o Performance measured on average during the period of performance monitoring.
- o Electrical consumption data measured by Anantara Bophut Chief Engineer.
- o Meteorological data certified by the Thai Meteorological Department

- o Performance: **32.8% electricity consumption saving on average** with CONTINEWM® Net when A/C used at **25°C**.
- o Performance: **47.2% electricity consumption saving on average** with CONTINEWM® Net when A/C used at **23°C**.
- o Saving performance measured on the total air conditioning electricity consumption equivalent to a **reduction of CO₂ emission of 403 to 581 tons per year**. (On average in Thailand 1kWh produced emits 0.497 kg of CO₂ - 2016 Update from Energy Policy and Planning Office (EPPO))

Approved by:

SONGWUT SAENSUK
AREA DIRECTOR OF ENGINEERING
SOUTH THAILAND



Thomas GAL

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**CONTINEWM® Nets
IBIS Riverside Bangkok
Real Life Conditions
Performance Monitoring Summary**



Update : 06th March 2017
Testing company : Technic Electrical Engineering (Thailand) Co., Ltd.

Client	Ibis Riverside Hotel - Bangkok	Net generation	CONTINEWM®
Type	Hotel conference room	Condition	Real Life
Date	November 2016	A/C technology	Split + Energy saving system
Duration	2 months	Saving results	Average = 14.1% Night Average = 22.5%
Net Installation	Indoor	Saving base	A/C energy consumption

- Performance monitoring result:**
 - Measurement of the performance by comparison of the consumption of the A/C complete system WITHOUT and WITH CONTINEWM® Net.
 - Performance: **14.1% electricity consumption saving on average with an average peak of 22.5% by night when conditions are more stable and comparable**, with CONTINEWM® Nets during the testing period at IBIS Riverside Bangkok, Benjakitti Meeting room using split types compressors with water spray energy saving device and Fan Coil Units.

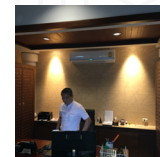
WITHOUT CONTINEWM® Nets		WITH CONTINEWM® Nets		SAVINGS		MEETING ROOM USED	
NIGHT	79.28	61.95	-21.28%				
DAY	125.83	90.47	-28.1%				
NIGHT	82.13	60.77	-26.0%				
DAY	96.26	80.42	-16.4%				
NIGHT	61.82	44.07	-28.7%				
DAY	85.26	103.73	21.7%				
AVERAGE NIGHT	72.37	55.40	-23.5%				
AVERAGE DAY	101.74	96.54	-5.1%				
AVERAGE DAY+NIGHT	87.66	78.97	-10.2%				
NIGHT	65.43	44.29	-32.3%				
DAY	133/09/16	54.14	-15.2%				
NIGHT	49.91	42.31	-15.2%				
DAY	14/09/16	58.66	-20.1%				
NIGHT	53.72	46.54	-13.6%				
DAY	15/09/16	75.23	-1.5%				
AVERAGE NIGHT	56.36	44.38	-21.2%				
AVERAGE DAY	71.29	62.98	-11.7%				
AVERAGE DAY+NIGHT	63.82	53.68	-15.9%				
AVERAGE NIGHT	64.37	49.89	-22.5%				
AVERAGE DAY	85.52	73.76	-13.8%				
AVERAGE DAY+NIGHT	75.44	64.82	-14.1%				

**CONTINEWM® Nets
NOVOTEL Koh Samui
Real Life Conditions Performance Monitoring Summary**

Update : 07th February 2017
Testing company : Technic Electrical Engineering (Thailand) Co., Ltd.

Client	Novotel Chaweng - Koh Samui	Net generation	CONTINEWM® Beta
Type	Hotel GM office	Condition	Real Life
Date	December 2016	A/C technology	Split + Energy saving system
Duration	2 months	Saving results	Average = 26.0% Peak = 51.0%
Net Installation	Indoor	Saving base	A/C energy consumption

- Performance monitoring result:**
 - Measurement of the performance by comparison of the consumption of the A/C complete system WITHOUT and WITH CONTINEWM® Net.
 - Performance: **26% electricity consumption saving on average with a peak of 51%** with CONTINEWM® Net during the testing period at NOVOTEL Koh Samui GM Office.



GM Office with Wall-mounted split type A/C unit



PPJ Engineering Split type A/C system with energy saving system already installed. (25 Plus series Econo-Thermostat). This energy saving system aims to regulate in a more efficient way the refrigerant pressures and save about 15% energy.



The electrical meter measures the complete electrical consumption of the A/C system (Indoor unit + outdoor unit).

Taking into account the fact that an energy saving system is already installed on this A/C system, and the uncontrolled parameter linked with the A/C utilization in the office surrounding the GM office where the test was done, 26% energy saving on 2 months' average is a great result.



**CONTINEWM® Nets Beta
BANYAN TREE - Koh Samui
Real Life Controlled Conditions
Performances Monitoring Results**



Update : 22nd April 2016

Testing company : Technic Electrical Engineering (Thailand) Co., Ltd.

Client	Banyan Tree - Koh Samui	Net generation	CONTINEWM® Nets Beta
Type	Hotel Villas	Condition	Real Life - Controlled conditions
Date	March 2016	A/C technology	Split
Duration	1 month	Saving results	Average = 19% // 21,8%
Net Installation	Indoor + Outdoor	Saving base	Total electricity bill // A/C electricity consumption only

• **Test process:**

- o Controlled environment and parameters
- o Electricity consumption measured by BTS usual system (Electrical meters with CT)
- o Measure of the performance by comparison of the consumption with and without CONTINEWM net.

• **Test results** (25oC, Medium fan, No net vs 100% air inlet inside - Split type + Fan Coil Units):

	With CTM Net	No CTM Net	SAVINGS
Average power consumption (kW)	2.145	2.652	-19,1%

- o **Saving performance** on the total electricity consumption of the overall villa including pool pumps under those circumstances:
19.1% (=21.8% of A/C consumption only)
- o Due to:
 - Relatively short test period,
 - Experience of other long term test ran (results improving and stabilizing over a 3 months' period) in Thailand on occupied sites,
- o We believe that this result is a value at minimum and that the savings generated by the net on the overall resort will be **bigger than the 19.1%** found during this test.
- o Based on occupancy history, real electricity bills of the resort and 62.5% of the total electricity bill of the resort being consumed by A/C system (Banyan Tree Chief engineer) → ROI for the complete resort = **16 Months**



**CONTINEWM® Nets
MÖVENPICK Karon - Phuket
Real Conditions Case Study**



Update : 12th June 2017

Performance Monitoring company : Technic Electrical Engineering (Thailand) Co., Ltd.

Client	Mövenpick Karon, Phuket	Type	Hotel Villas + Main building
Condition	Real Life - Controlled conditions	A/C technology	Split
Villas resort	N/A	Saving results	Average = 23%
Yearly CO2 reduction	N/A		
ROI	N/A	Saving base	A/C electricity consumption only

1. Executive summary:

• **CONTINEWM net product description:**

- o CONTINEWM® Net is an innovative product developed, produced and patented in Japan, made of ceramic that emit specific infrared rays. This electromagnetic wave creates weak vibrations to the moisture in the air and makes water molecular groups atomized. The atomized water molecular groups increase the contact area between the air and heat exchanger. When placed at the air inlet of the evaporator of an air conditioning indoor unit, the increased contact area between the air and the fins improves the heat exchange ratio and efficiency of the evaporator, reducing the load on the compressor on the outdoor unit generating energy savings. The atomized moisture in the air conveys heat energy quicker and spreads out more evenly in the room. Therefore, the temperature in the room is more homogenous, the A/C reaches the set temperature faster and maintains it more easily, increasing the efficiency of the A/C system. CONTINEWM® Net is very easy to install, no need to turn off A/C during installation, no need to perform any modification on the A/C system and it does not generate any additional running cost nor maintenance cost.

• **Product Warranty:**

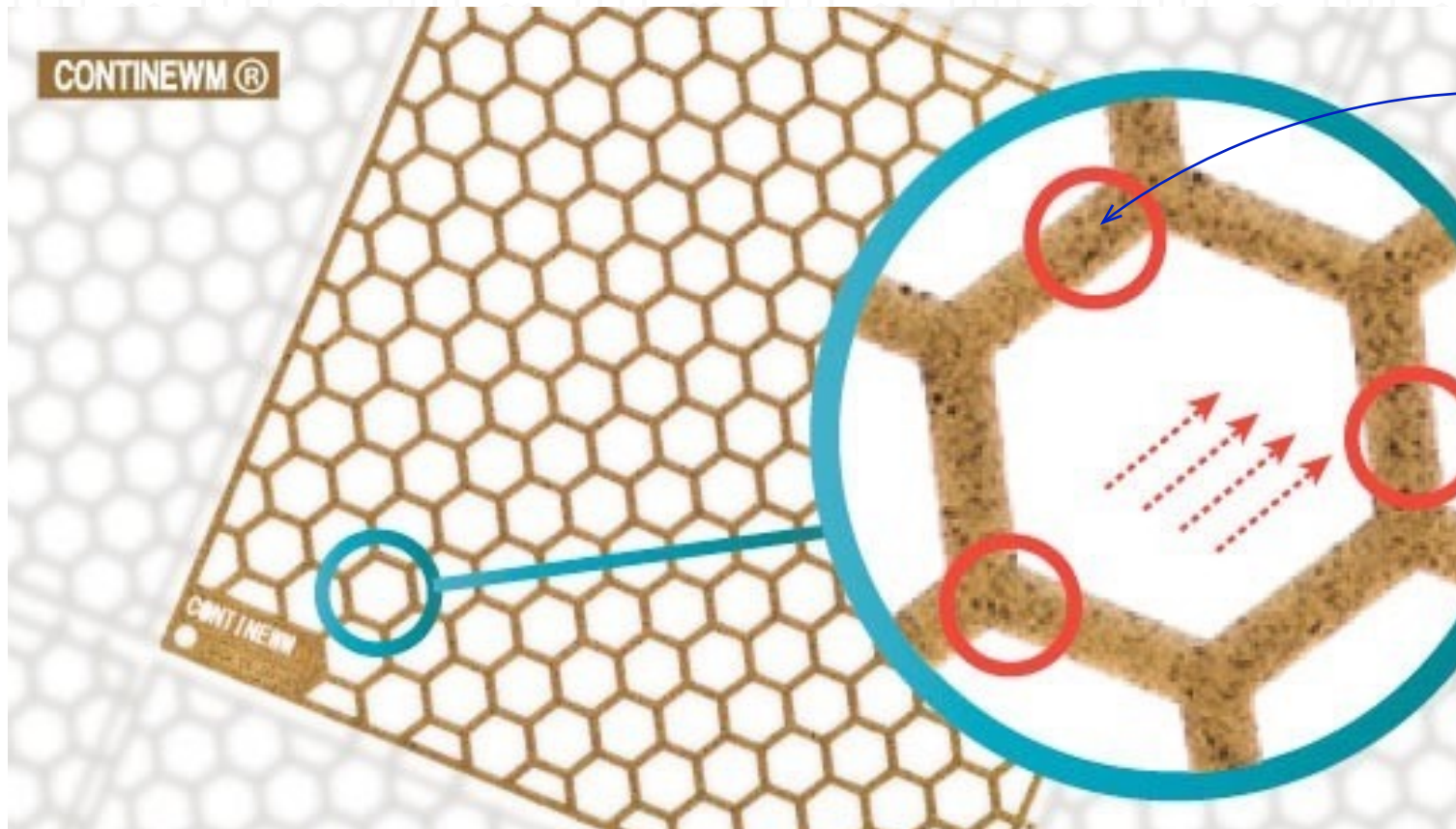
- o Permanent Infrared Emission of Continewm Nets (active principle): **Lifetime Warranty**
- o Plastic frame: **20 years** for indoor use

• **Other benefits:**

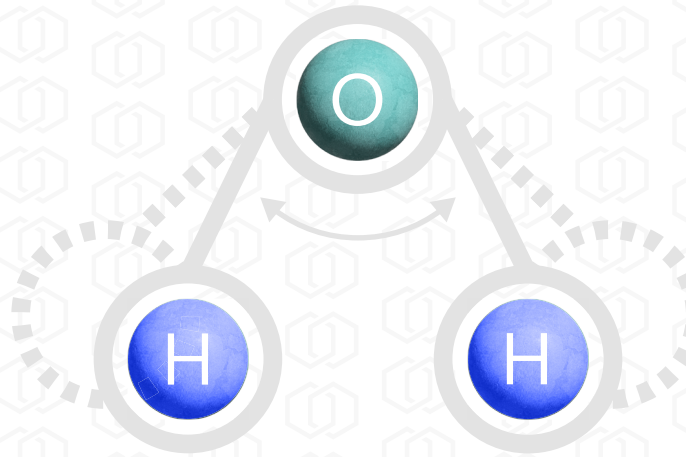
- o Deodorize
- o Purer air, better energy, better health & productivity

THE SCIENCE BEHIND

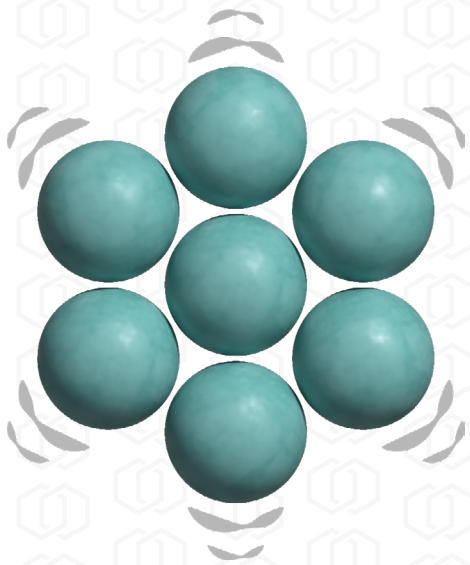
- Far Infrared Rays emission
- Reduction of electrostatic turbulences through electro-negativity
- Reduction of aerodynamic turbulences through honeycomb structure



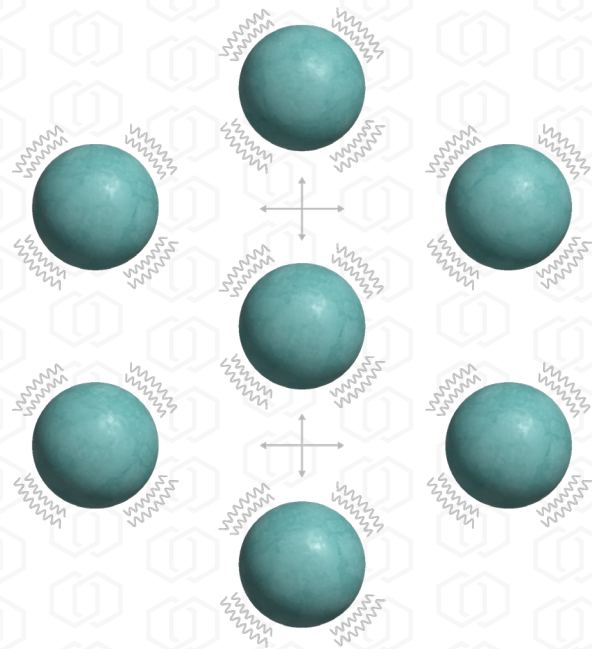
Ceramic
Particles



Constant vibration and oscillation of **water molecules**.

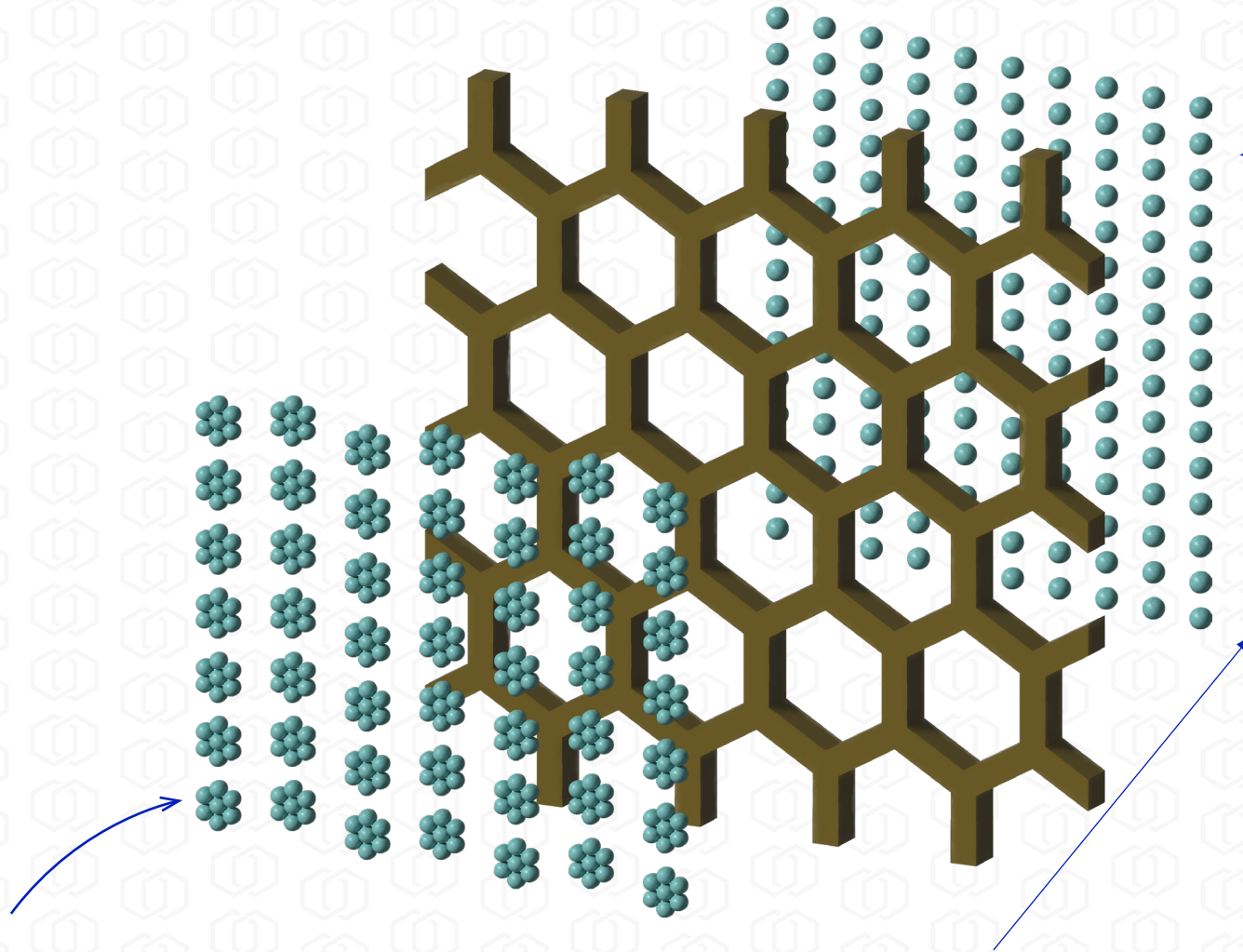


Normal vibration of water molecules in the air where the molecules are grouped in big clusters **linked by hydrogen bond**.



Large vibrations of water molecules in the air when affected by **far infrared rays** where **hydrogen bond is cut**.

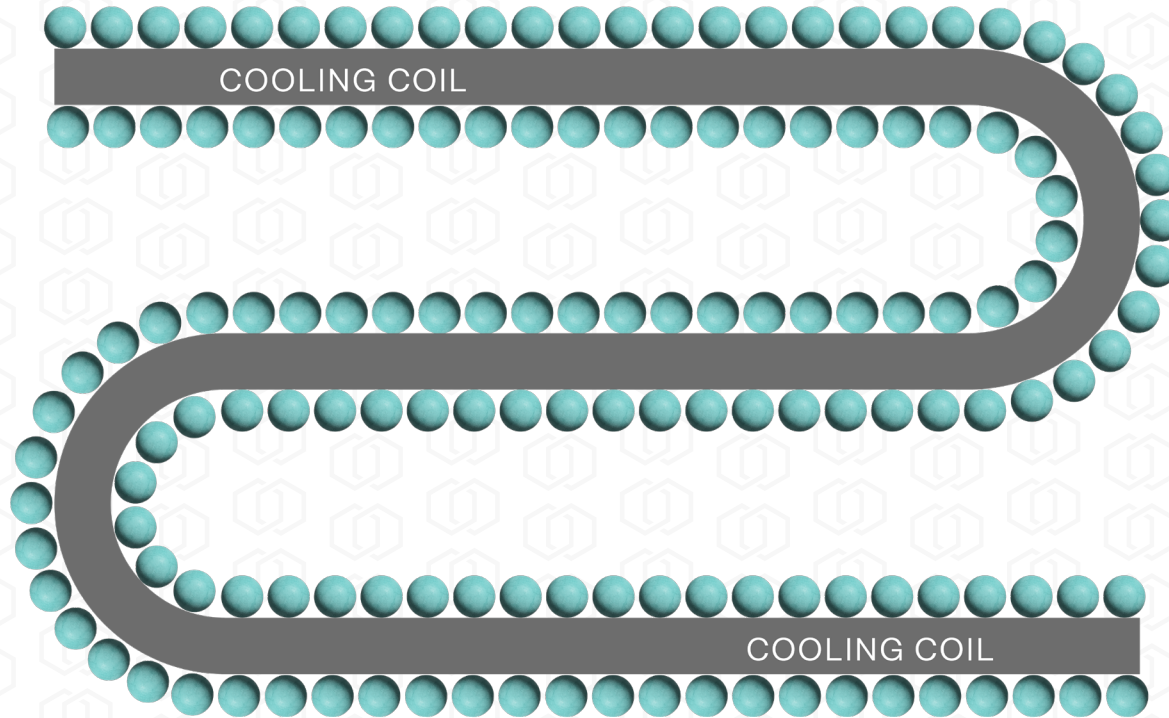
Far Infrared Rays (FIR) create vibrations causing molecular groups of moisture to disperse



Normal vibration of water molecules in the air where the molecules are grouped in big clusters **linked by hydrogen bond.**

Large vibrations of water molecules in the air when affected by **far infrared rays** where **hydrogen bond is cut.**

FINAL EFFECT



Increased Contact Area
Faster Heat Exchange
Even Spread

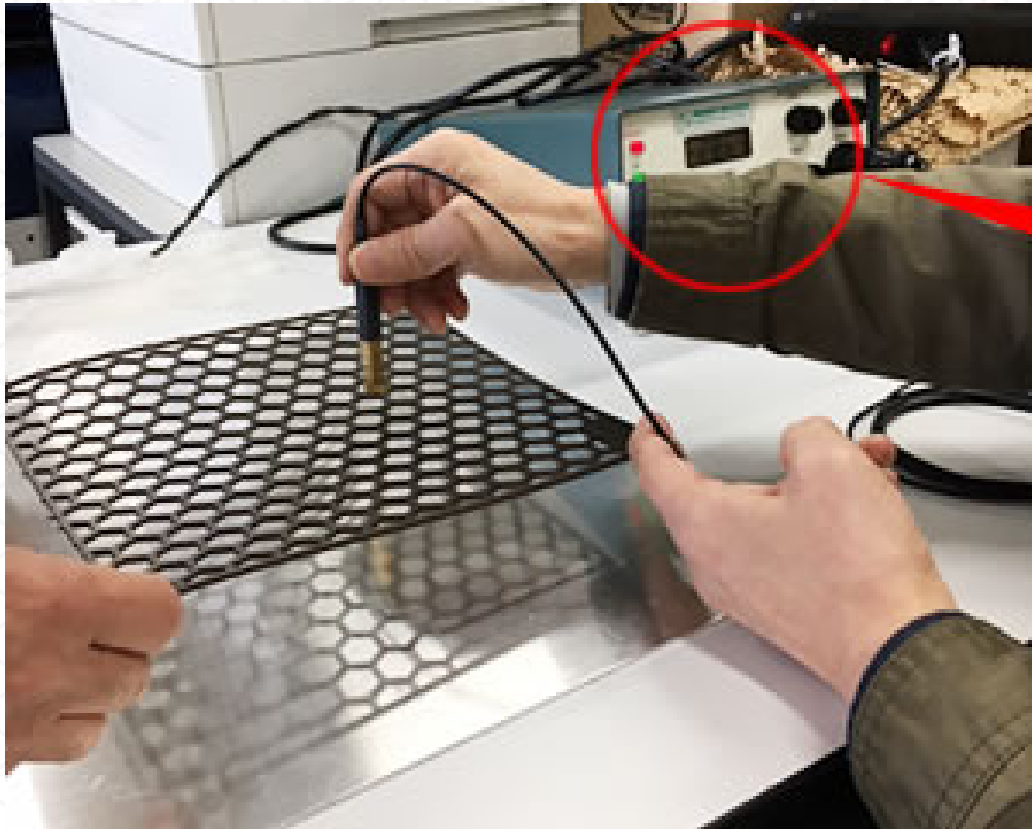


Set temperature reached faster
Homogeneous temperature



Increased compressor efficiency
Reduces compressor load
Reduces chiller load

Highly negative electrostatic charge of **CONTINEWM®** Net ceramic



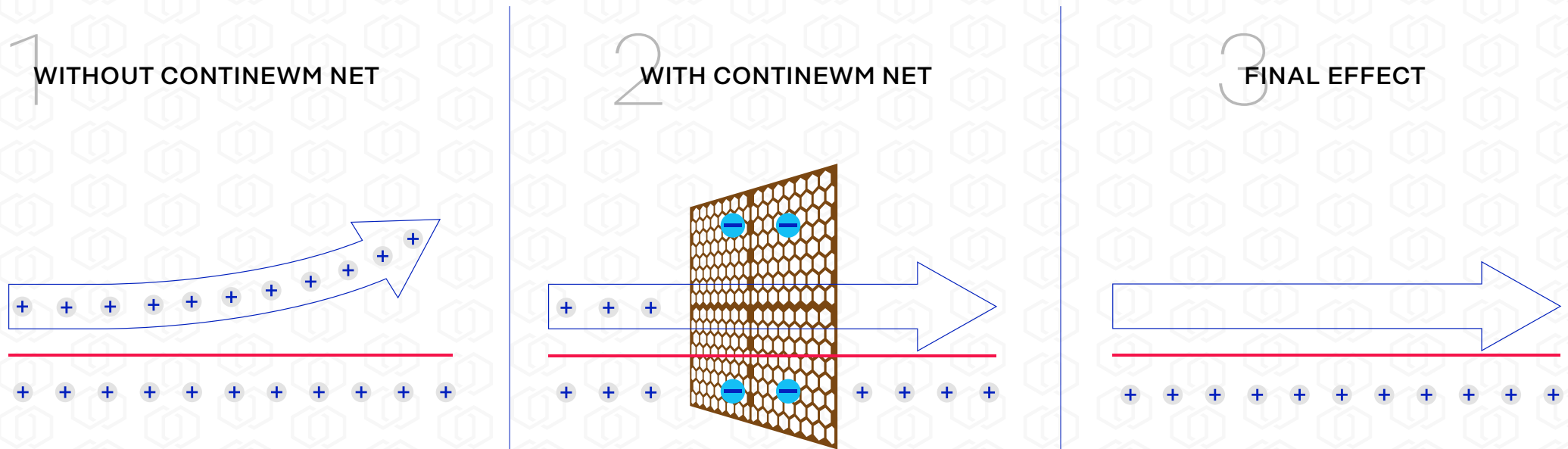
-2869V

Equipment used:
Monroe Electronics Co. Ltd. (USA), surface potential measuring instrument

Body:
Isoprobe, model 244

Probe (sensor):
Model 017

Reduction of Electrostatic Turbulences



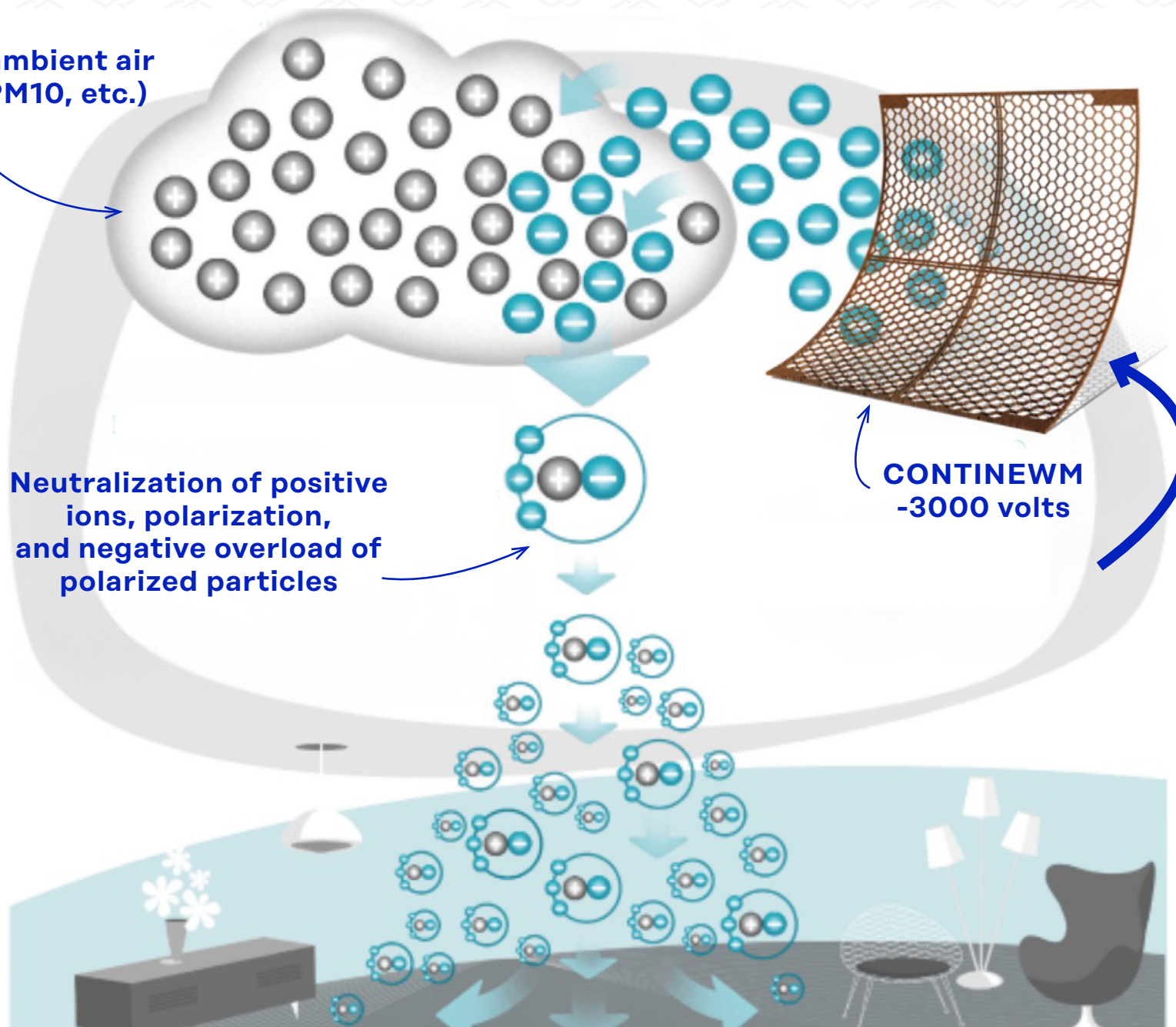
The positive electrostatic charge on the coil, the fan, the a/c frame, and in the air is generated by the friction between the air and the mechanical parts of the a/c, causing repulsion and reducing contact with the heat exchanger.

CONTINEWM® neutralizes this charge, eliminating the repulsive force.

This maximizes contact with the heat exchanger fins, lowering electrical consumption and optimizing performance at all temperatures.

Reduction of PM2.5 & PM10 levels resulting in improved air quality.

Polluted ambient air
(PM2.5, PM10, etc.)



Neutralization of positive ions, polarization, and negative overload of polarized particles

CONTINEWM
-3000 volts

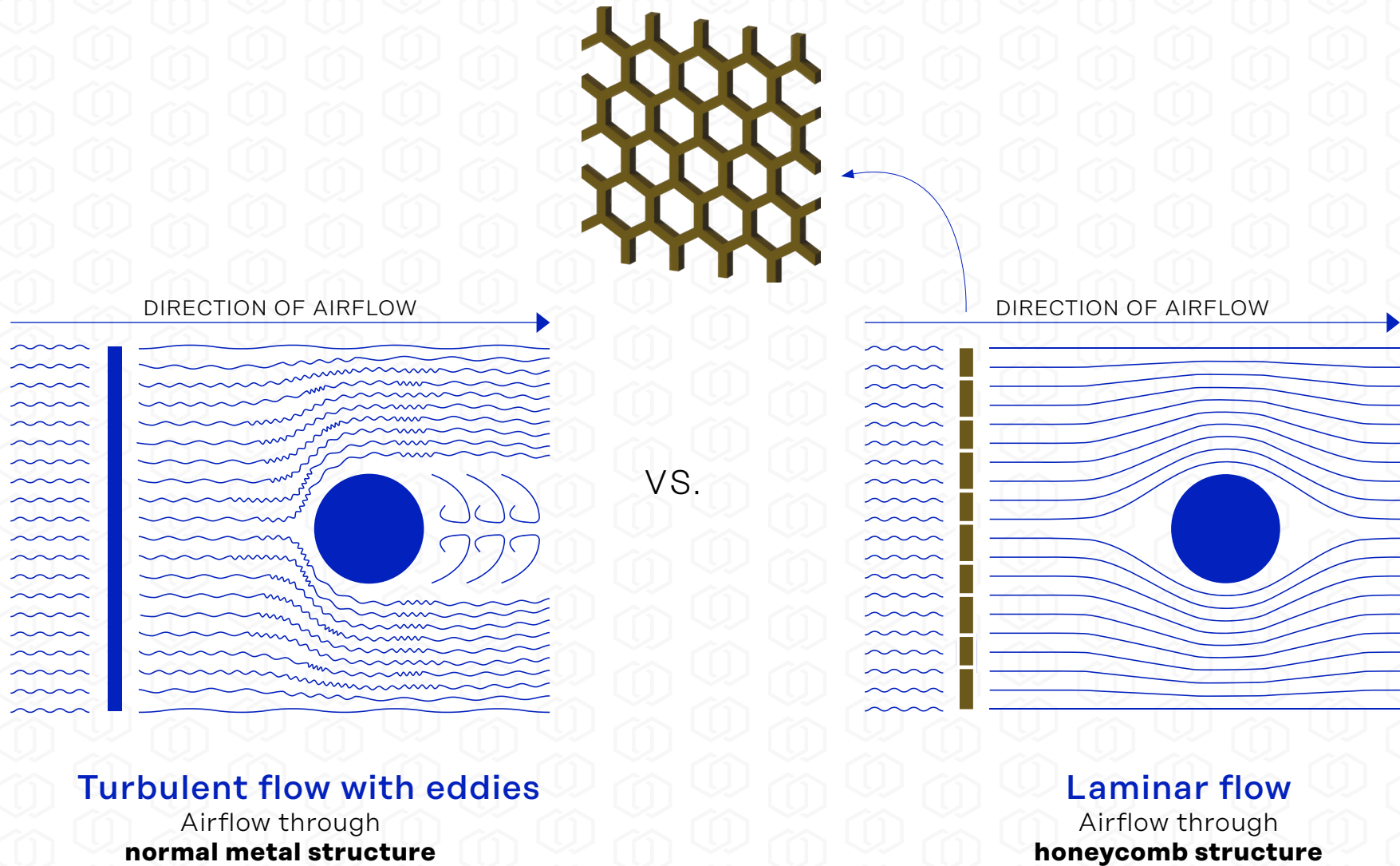
AQI GUIDELINES

World Health Organization (WHO) air quality guidelines (AQGs) and estimated reference levels (RLs) ^(a)

Pollutant	Averaging period	AQG	RL	Comments
PM ₁₀	1 day	45µg/m ³		99th percentile (3-4 exceedance days per year). Updated 2021 guideline
	Calendar year	15µg/m ³		Updated 2021 guideline
PM _{2.5}	1 day	15µg/m ³		99th percentile (3-4 exceedance days per year). Updated 2021 guideline
	Calendar year	5µg/m ³		Updated 2021 guideline

Source: <https://www.eea.europa.eu/publications/status-of-air-quality-in-Europe-2022/europes-air-quality-status-2022/world-health-organization-who-air>

Honeycomb structure frame

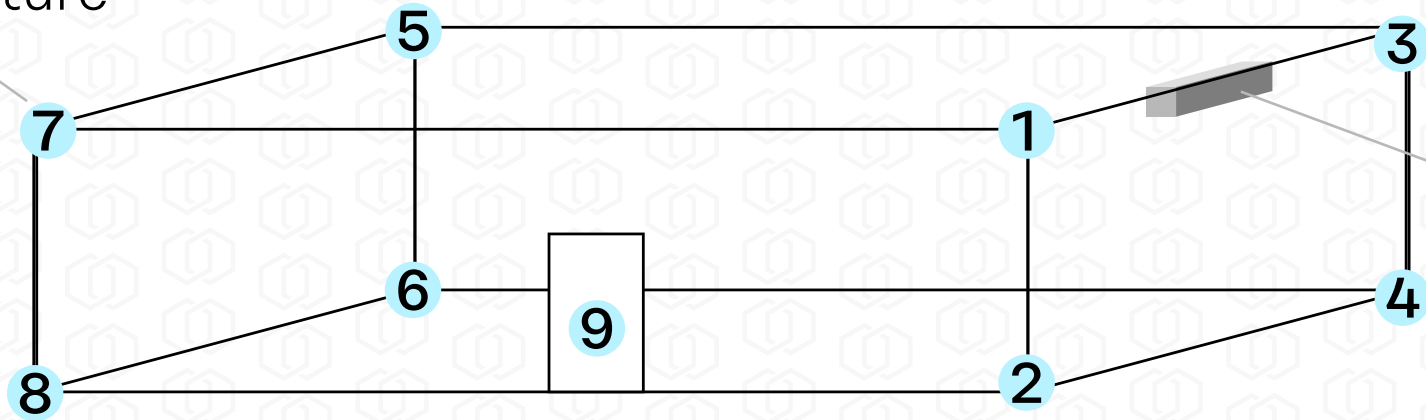


When the air passes through the honeycomb structure, turbulent airflow changes to linear airflow, resulting in **redirection of air to a straight path reducing eddies**

HOMOGENEOUS TEMPERATURE

Proven at Dokkyo Medical University Laboratory

Temperature check points



Air conditioner output

Prefabricated Cold Room

	Thermostat setting	The 9 points of temperature check-points									Max °C - Min °C	Actual Avg
		1	2	3	4	5	6	7	8	9		
WITHOUT CONTINEWM	5°C	7°C	5°C	8°C	8°C	8°C	6°C	7°C	7°C	8°C	4°C	7.2°C
WITH CONTINEWM	5°C	4°C	4°C	4°C	4°C	4°C	5°C	4°C	4°C	4°C	1°C	4.1°C

INSTALLATION



STEP 1

Accessing the air filter



STEP 2

Placing CONTINEWM® net on the air filter



STEP 3

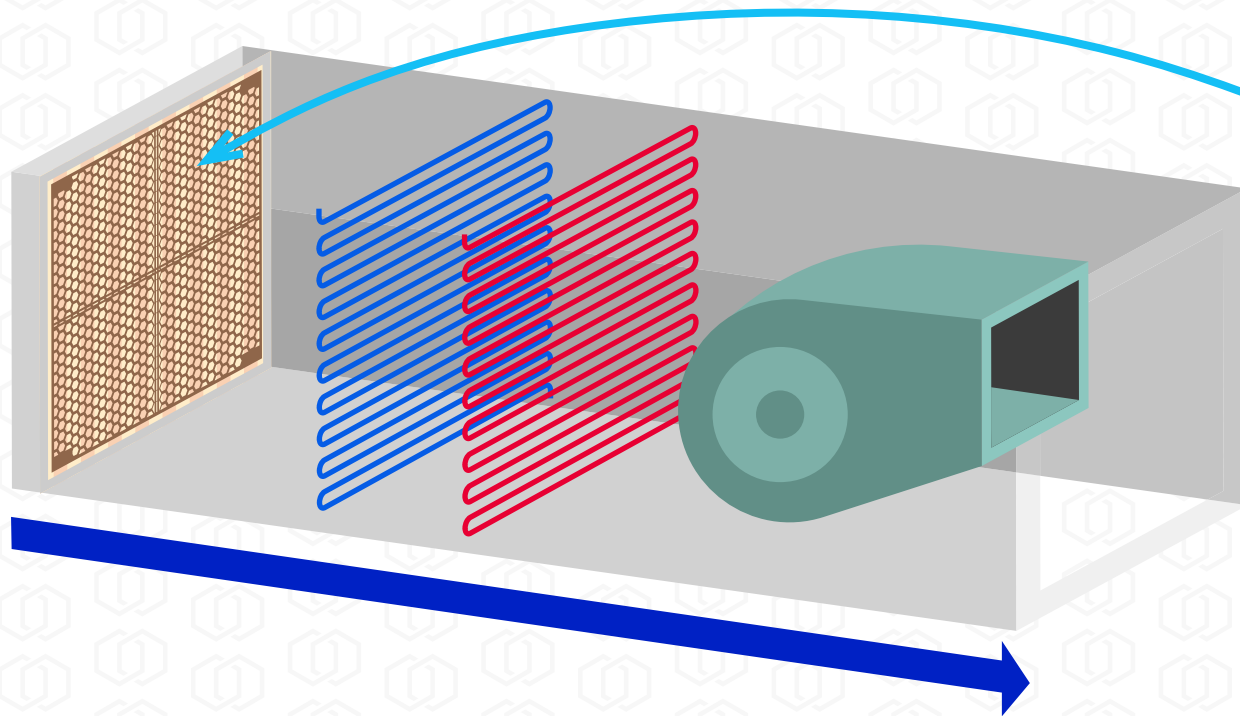
Securing CONTINEWM® net with zip ties

STEP 4

Putting the air filter back

SIMPLE, EASY, & QUICK INSTALLATION ONLY USING **ZIP TIES**!



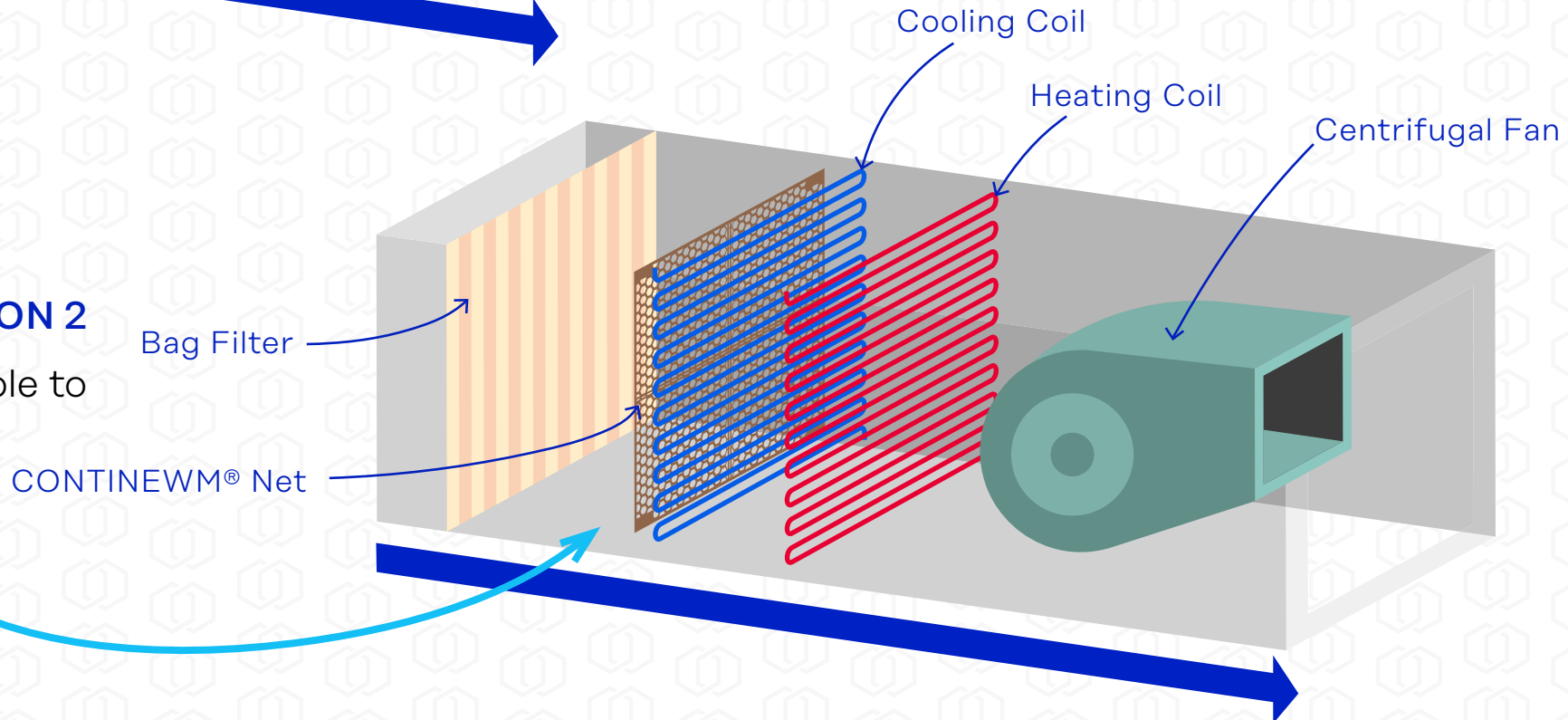


PLACEMENT OPTION 1

- On the bag filters

PLACEMENT OPTION 2

- As close as possible to the cooling coil



About Us

National Enviro Tech Solutions was founded by Anil Thaman & Jatin Singh in 2024. We are authorised distributors for India Nepal & Middle East.



Anil Thaman

Cofounder

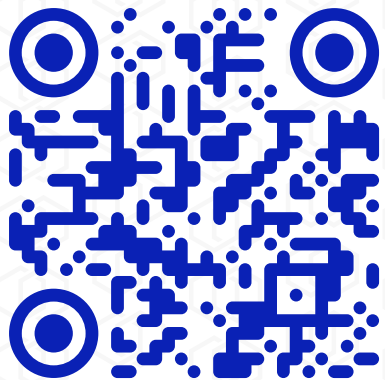


Winner of world handwriting contest
2021 & 2023



Jatin Singh

Cofounder



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