

3AC

Through and Through...

Change your life for the better from
Aqua Cleaner, Air Cleaner, Activated Carbon.



Activated Carbon

Impregnated Activated Carbon is activated carbon which has enhanced chemical activity by adding metal, metal salt or organic matter to high purity activated carbon with high specific surface area.

Air Cleaner

We manufacture: Pre-Filters to remove large particles. Medium Filters that can be used by applying functionality. Deodorizing Filters to remove various gases. HEPA Filters to remove ultrafine dust.

Aqua Cleaner

Aqua Cleaner is an extruded water filter that filters chlorine, particulate matter, and heavy metals contained in water. It is harmless to the human body with the use of proven raw materials.



Major Customers and Partners

SAMSUNG



GE APPLIANCES
a Haier company

Panasonic

coway

SK magic

'TORAY'

SHARP

**MITSUBISHI
ELECTRIC**

NOMURA

History

- 2007** - Incorporated as 3AC Co., Ltd.
- 2010** - Certificated as a venture company
(Certified as technology finance focus)
- Acquired ISO 9001 & ISO 14001
(International Environment Management Certification)
- 2011** - Established Hwaseong Factory
- Established affiliated research center of 3AC Co., Ltd.
- 2013** - Established 3AC(Thailand) Co., Ltd.
- 2014** - Received Innobiz status. Chosen as an industrial convergence leading company
- 2015** - Selected as leading Environmental Company by the Ministry for Environment, Korea
- 2016** - Established Suzhou 3AC(China) Co., Ltd.
- Participated in AHR 2017 Orlando
- Awarded (Top exports of \$ 3 million) on the 53th Trade day
- Participated in FILTECH 2016 the Filtration event in Germany
- 2017** - Established 3AC 3rd Factory(Jeongeup, Korea)
- Established New 3AC (Thailand) Factory
- Participated in AHR 2017 Las Vegas
- 2018** - Business Agreement Conclusion with GE Appliances
- Participated in AHR 2018 Chicago
- Participated in FILTECH 2018 Cologne
- Participated in IFA GLOBAL MARKET 2018 Berlin
- Participated in CHILLVENTA 2018 Nuremberg



About US

Through and Through...



3AC CO., LTD.

We are striving to develop technologies and products that pursue clean air, clean water, and a pleasant environment. 3AC has a wealth of knowledge and experience as the core of the air and water filter business. Furthermore, it has many partners and B2B systems ranging from catalyst research and evaluation of filter characteristics, application, and production.

3AC Research Center

3AC Lab was established in 2011 with the aim of realizing clean water, clean air and pleasant environment. We make use of activated carbon to achieve a pleasant environment, and we are contributing to expand the application area and improve the environmental quality through research and development of new adsorbent. We have established industry-academia-government cooperation system with leading universities and researchers in Korea to share material and product development, joint research and research capability for the future.



3AC Technology Status

Activated Carbon

In the case of existing activated carbon, when two or more functionals were introduced simultaneously, the functional groups reacted to each other and turned into completely different materials. However, using microencapsulation coating (patent application 10-2015-0123804) developed a coating technology that prevents the mixing of two functional groups.

3D Deodorizing Filter

Air flowing through the deodorant filled in the filter core can flow in various directions. In addition, the pressure loss due to the air flow is reduced, and the deodorizing performance is improved. Furthermore, the path through which odor components are removed becomes longer, thereby increasing the efficiency.

R&D Network Construction

Yonsei University, POSTECH, Sungkyunkwan University, etc. Through cooperation between industry and academia, we have established a joint development agreement and industry-university cooperation system.

Environmental Technology Development Project, Life Environment Quality Improvement Technology (2014 ~ 2016), Yonsei University 'Development of continuous manufacturing system of antibacterial / antiviral filter based on atmospheric dry aerosol process'

Joint Development with Enterprise Research Institute

Small and Medium Business Administration (2012) COWAY 'Developed activated carbon deodorizing filter for HONO removal specialized in kitchen air cleaner' Developed excellent air cleaning efficiency and de-NOx deodorizing filter.

Patent Status

- 15 domestic patent registrations (Including 1 design, 3 trademark rights), 14 applications, 1 exclusive license
- 5 overseas patents (Including PCT)





Air Conditioner

It is made of microfiber and has excellent floating dust removal performance.



Dryer

Collects foreign matter and fine dust attached to clothing when washing and drying clothes.



Air Purifier

The deodorizing filter of an air purifier purifies the room by absorbing various pollutants.



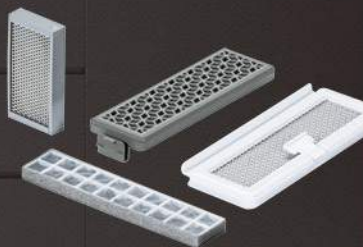
Water Purifier

Water filter for filtering chlorine, foreign substances, heavy metals contained in water



Refrigerator

Activated carbon impregnated with a functional catalyst is produced so as to have good odor removal even at a low temperature.



DEODORIZING FILTER

It is a deodorizing filter that removes living odor and harmful gas (formaldehyde, ammonia, toluene, etc.) by using high-performance activated carbon developed by 3AC itself. Among deodorizing filters, there are filters for air purifiers and air conditioners that purify the room air, and refrigerator filters that perform well at low temperatures.

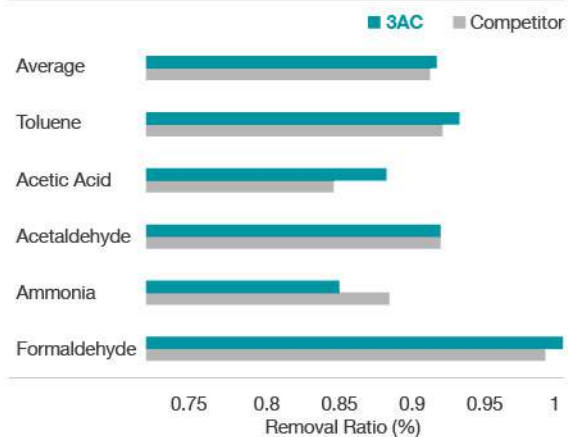
Hazardous Gas Removal Efficiency	3AC	Competitor	Charges
Formaldehyde	99%	98%	355ml
Ammonia	86%	89%	355ml
Acetaldehyde	92%	92%	355ml
Acetic Acid	89%	86%	355ml
Toluene	93%	92%	355ml
Average	91.8%	91.4%	355ml

Experimental Method

8 Rube Chambers (According to SPS-KACA002-132)

Samsung Virus Doctor

Harmful Gas Removal Efficiency





PRE-FILTER

Pre-Filter is a pre-treatment dust filter widely used in air conditioner, air purifier, and industrial air-conditioning equipment. Micro fiber, which has less pressure loss, excellent durability, and has a diameter of 1/3 of the hair and is manufactured by the cross-fusing method, can effectively remove dust as well as yellow dust (over 300 μm).

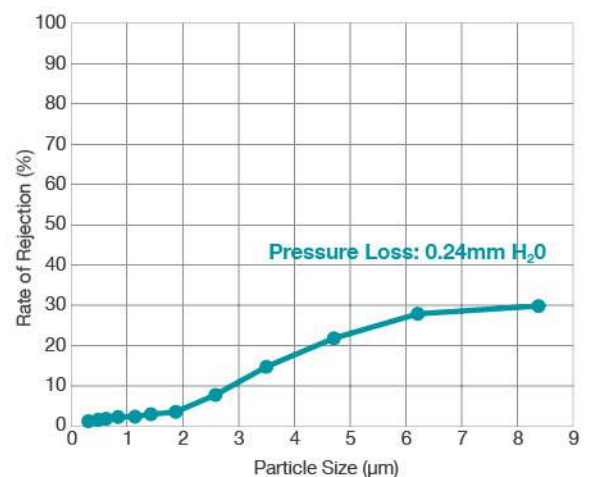
Product Line & Equipment

No.	M/C Name	Spec (Ton)	M/C Q'ty
1	Injection	130	1
2	Injection	170	3
3	Injection	250	1
4	Injection	350	2
5	Injection	380	4
6	Injection	580	1
7	Injection	680	1

No.

Test Chamber	ASHRAE 52.2
Analyzer	OPC-HCT
Set	3AC Micro Fiber Pre-filter

Particle Size Removal Efficiency

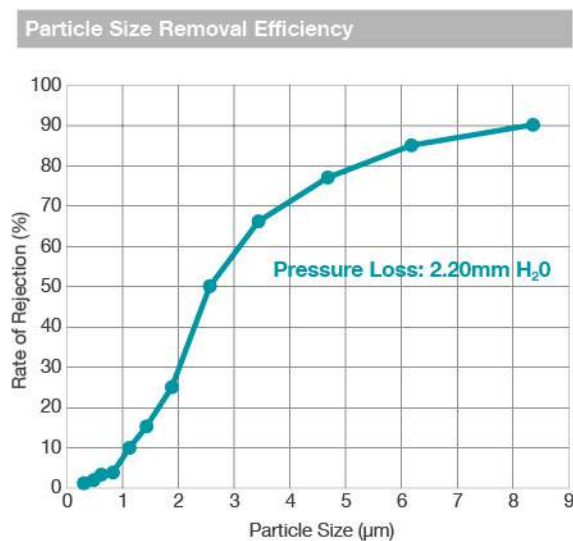




MEDIUM FILTER

It has low pressure loss and can obtain a constant air volume over the whole area. It is used as a main filter for HEPA filter pretreatment or air conditioning system. It is possible to effectively remove NO_x and HONO which are harmful to the human body generated in the kitchen.

Specifications	
Fabric	Non-wooven
Frame	Paper
Adhesive	Hot melt
Extra Features	Antibacteria, Anti-virus, Antiallergy



HEPA FILTER

It is a filter developed for the purpose of removing radioactive particles in the air. It is a high performance dust filter which removes various pollutants harmful to human body.

The performance is different for each fabric applied as a filter to remove fine dust. Applicable media vary from E10 (85% removed) to H14 (99.995% removed) grades.

Test Conditions and Results

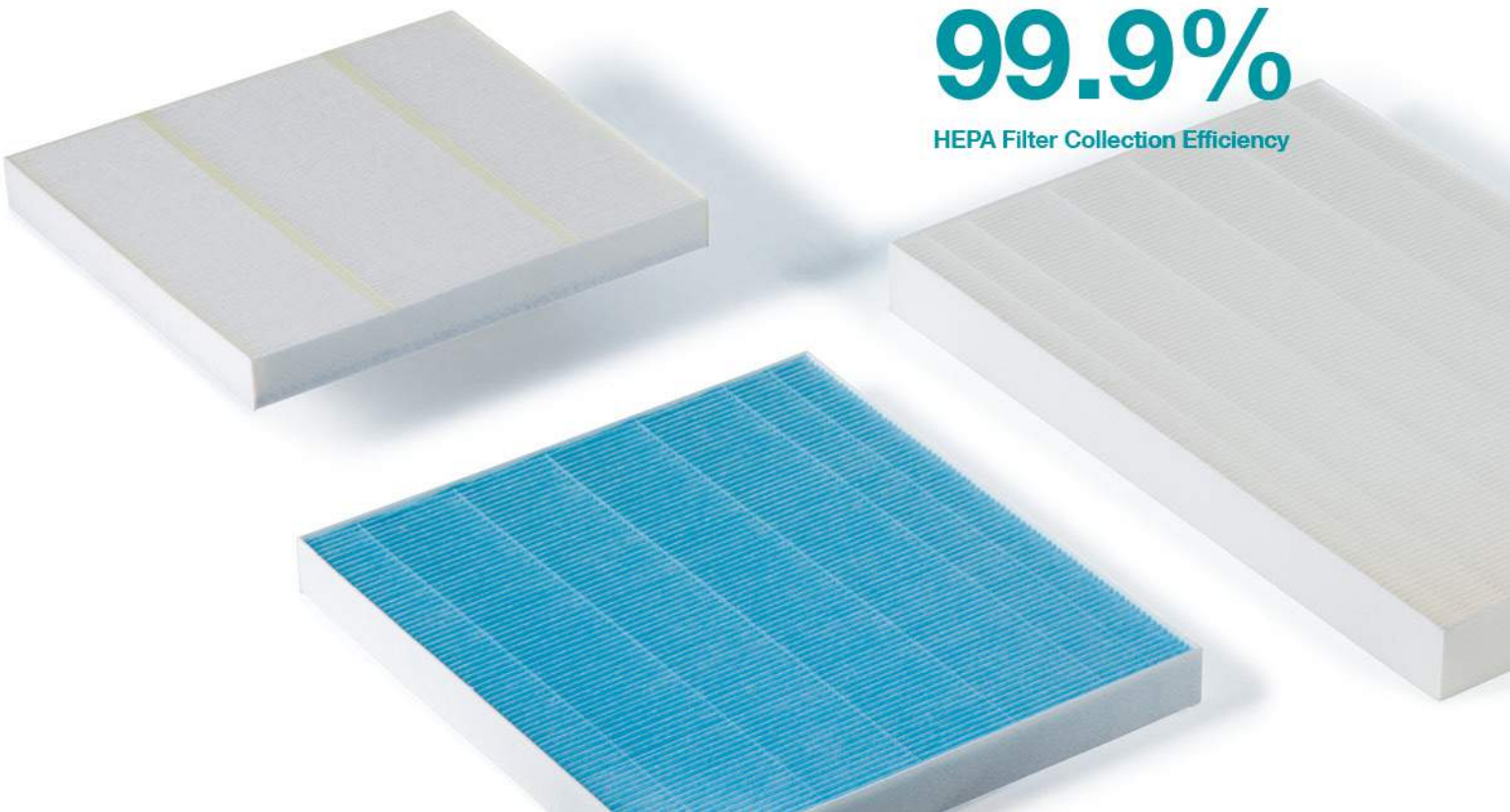
Conditions	Results	Test Contents	Results
U/D Ratio	1	Differential Pressure(mm H ₂ O)	4.07
Aerosol Type	NaCl	Filter Media Face Velocity (m/s)	1
Volume Flow Rate (CMH)	413	Particle Size (μm)	0.3
Temperture (°C)	23.6	Penetration Efficiency (%)	0.1
Relative Humidity (%)	47	Collection Efficiency (%)	99.9

Data

Particle Size (μm)	Concentration Before Filter (#/cm ²)	Concentration After Filter (#/cm ²)	Collection Efficiency (%)
0.3	24605	37	99.8
0.3	24393	19	99.9
0.3	26435	18	99.9
0.3	20586	15	99.9
0.3	25383	28	99.9
0.3	20906	13	99.9

99.9%

HEPA Filter Collection Efficiency



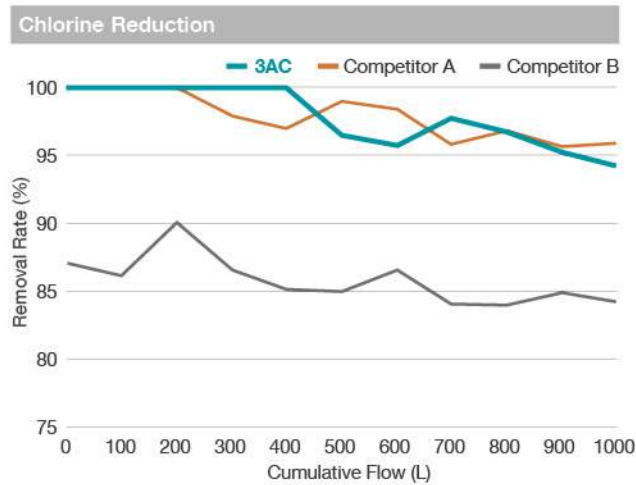
WATER PURIFICATION

Water filter developed and manufactured by our own technology.
Harmless to the human body using materials that are proven to be stable.

Use

For Removal of Chlorine	For Removal Heavy Metal
For Removal Life Odor	For Removal Organic/Inorganic Materials
For Removal Particles in Water	For Removal Turbidity

Specifications		
Capacity	~ 1,000 gallons (3,785 liters)	
Maxium Usage Life	6 months	
Particulate	5um	
Operating Conditions	Temperature	33 - 100 °F (4.4 - 37.8 °C)
	Pressure	20 - 125 PSI
	Flow Rate	0.5 GPM (1.9 LPM)





INDUSTRIAL & HVAC FILTERS

Semiconductor Clean Room Filter

Chemical filter applied to semiconductor and display clean room.
Maintains a clean environment and improves productivity by effectively removing natural gas that causes defects.

Industrial Process Filters

Deodorizing filter for HVAC using adsorbent such as impregnated activated carbon.
Various types of adsorbent can be applied, and customized degassing design is possible.



ACTIVATED CARBON

Activated carbon produced by our own technology (Patent Registration 10-1648551)

(Patent Name: Porous Adsorbent and Manufacture Method Thereof using Microencapsulated Adsorbent)

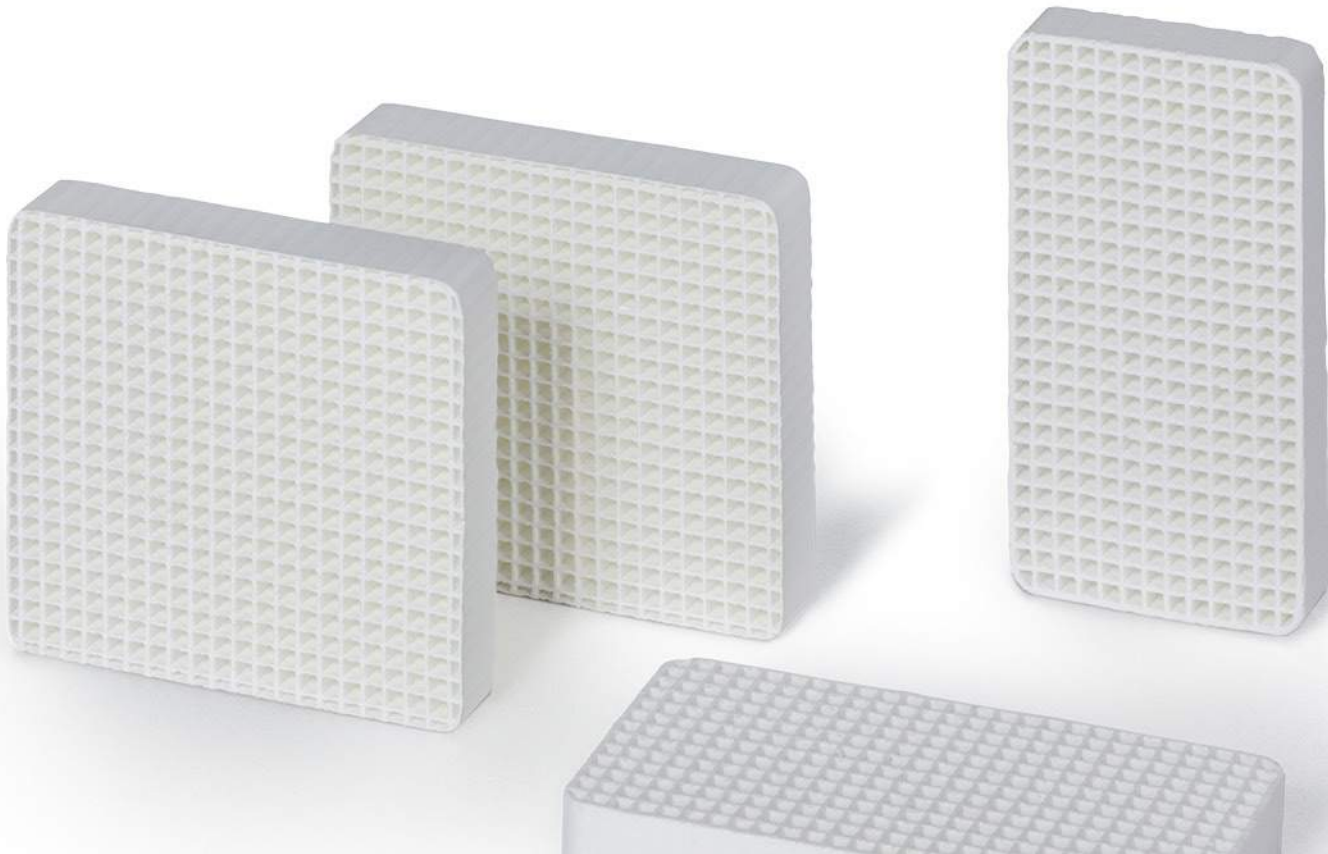
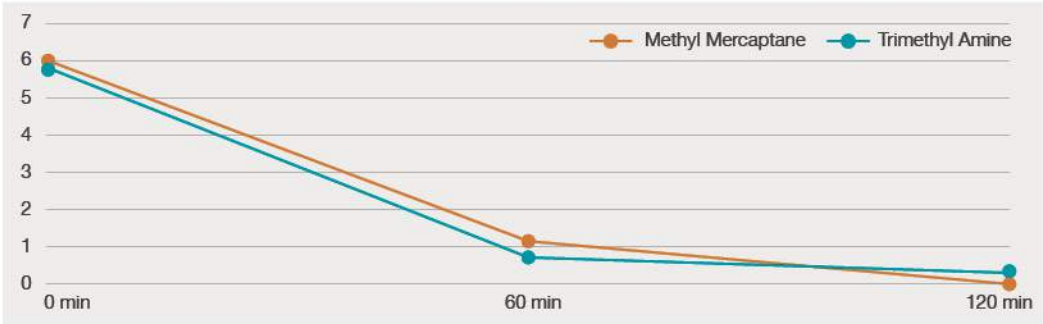
Impregnated Activated Carbon				
Type	Coal, Coconut			
	Standard			
Air Purifier (Varies by Usage)	20/40	30/60	2 Ø	3 Ø
BET (m ² /g)	Over 650	Over 650	Over 650	Over 650
PH	5 ~ 9	5 ~ 9	5 ~ 9	5 ~ 9
Hardness	Over 97	Over 97	Over 97	Over 97
Moisture	Under 3	Under 3	Under 3	Under 3

Impregnated Activated Carbon				
Type	Coal, Coconut			
	Standard			
Refrigerator (Varies by Usage)	20/40	30/60	2 Ø	3 Ø
BET (m ² /g)	Over 750	Over 750	Over 750	Over 750
PH	4 ~ 7	4 ~ 7	4 ~ 7	4 ~ 7
Hardness	Over 97	Over 97	Over 97	Over 97
Moisture	Under 3	Under 3	Under 3	Under 3

PHOTO CATALYST

When titanium dioxide (TiO₂) particles are made into superfine particles, activated oxygen is produced by UV rays contained in sunlight or fluorescent light. The redox action of active oxygen causes decomposition of organic matter, sterilization, and antifouling.

Sample Name	Gas	Spec (TonASDDSA)			Deodorizing Efficiency (%)
		0 min	60 min	120 min	
3AC	Methyl Mercaptane	6.4	1.2	0	100
	Trimethyl Amine	6.2	0.8	0.3	95.2
Filter Size	110 x 50 mm				
Test Method	1m³ CHAMBER, LED 3 pkg				
Measurement	Detector Tube				



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HEAD QUARTER

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