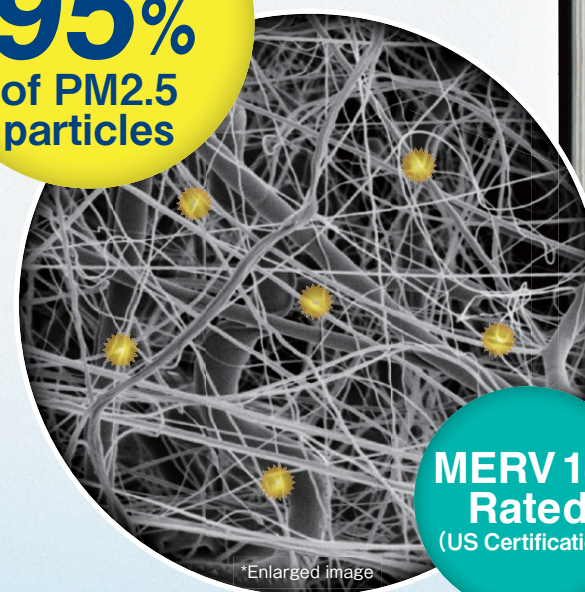




A Revolutionary Design

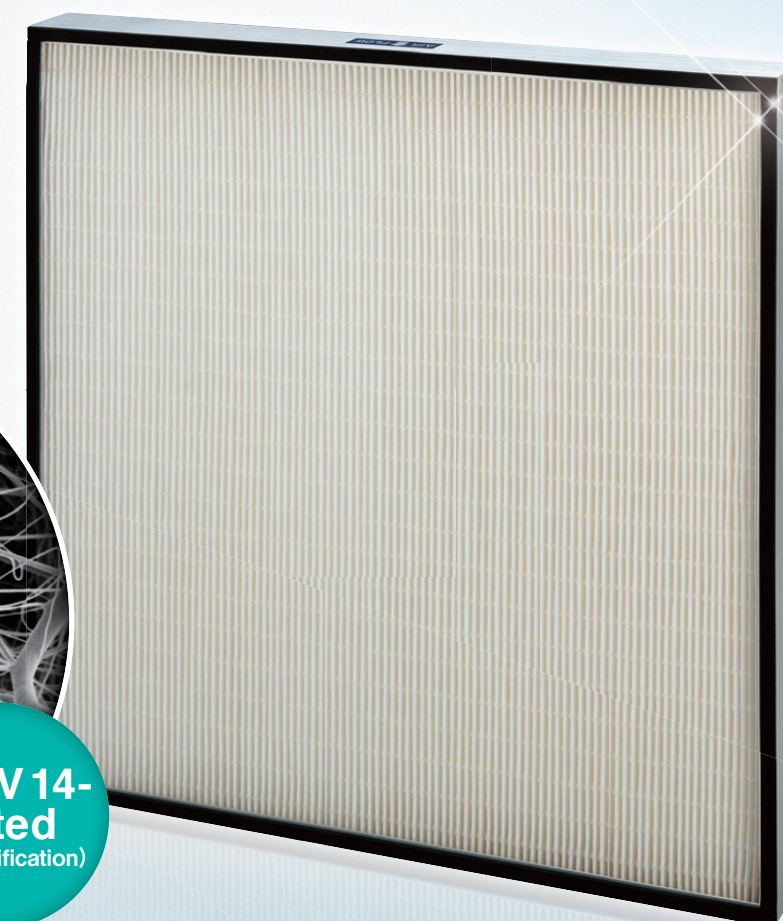
Air filters
made from **nanofibers**
have reached the market

Collects
at least
95%
of PM2.5
particles



*Enlarged image

**MERV 14-
Rated**
(US Certification)



NanoWHELP™

Nano Wonderful High Efficiency Low Pressure

Origin of NanoWHELP™

The name WHELP takes the first letters of the words Wonderful, High Efficiency, Low Pressure, and heralds the arrival of an exceptional range of nanofiber air filters with high efficiency and low pressure drop.

AQC Corporation



Head office 1-2-29, Nankokita, Suminoe-ku, Osaka
559-0034 Japan Tel: 81-6-6612-7700 Fax: 81-6-6612-7701
Tokyo office Kayabacho Ekimae Bldg. 7F, 2-11-8, Nihonbashi-Kayabacho,
Chuo-ku, Tokyo
103-0025 Japan Tel: 81-3-3662-8858 Fax: 81-3-3662-8860

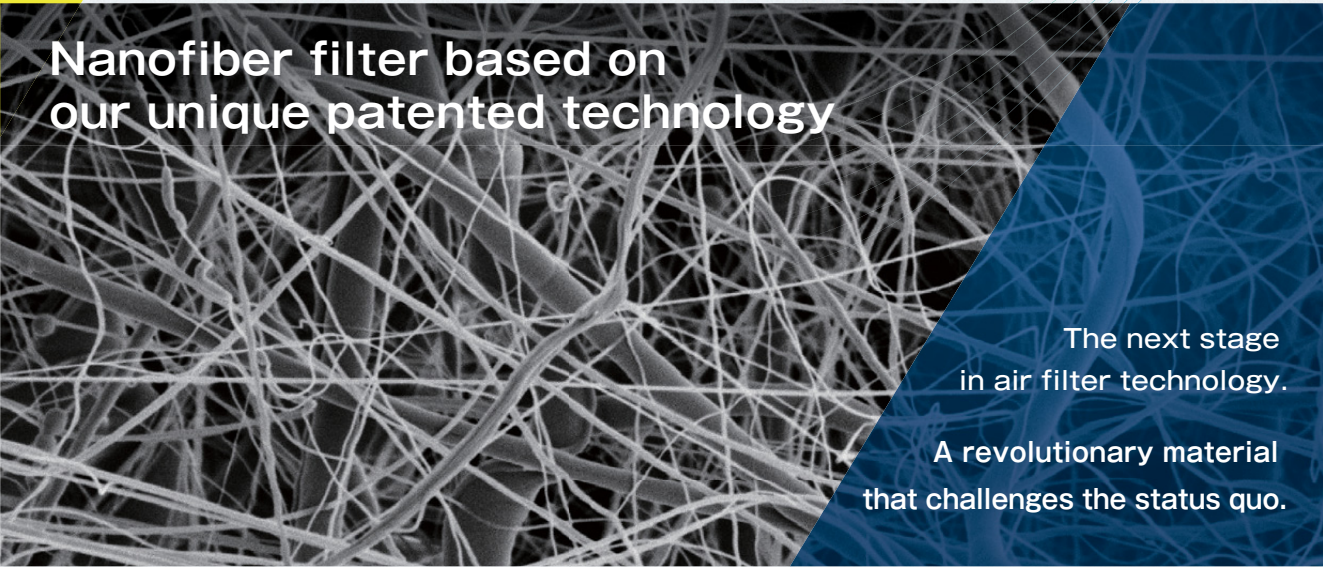
<http://www.aqcnet.com>

Contact

A revolutionary air filter using nanofibers

The next generation of air filters NanoWHELP™ has hit the market, incorporating YAMASHIN NANO FILTER™, nanofibers developed in-house based on our unique patented technology. With high collection efficiency and low pressure drop, our air filters keep the air clean wherever people are, like office buildings, factories, and public facilities.

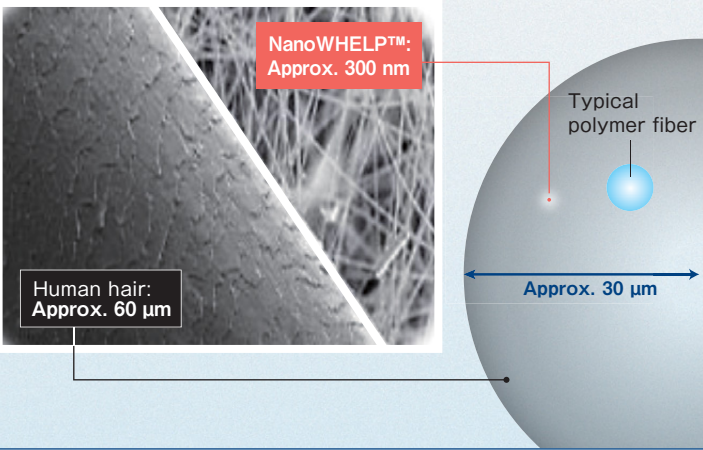
Nanofiber filter based on our unique patented technology



The next stage in air filter technology.
A revolutionary material that challenges the status quo.

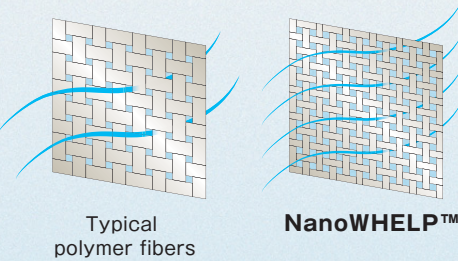
Ultra-fine fibers

A human hair averages 60 μm in diameter, and a typical polymer fiber 1.5 to 5 μm. In contrast, NanoWHELP™ consists of fibers with a most frequent diameter of 300 nm, approximately 200 times thinner than a human hair.



Three-dimensional structure

Conventional nanofibers have a flat two-dimensional structure. In contrast, NanoWHELP™ forms a complex three-dimensional structure that achieves high porosity. Even finer than these fibers are the countless voids between them that effectively collect particles.



The efficiency and long service life of NanoWHELP™ creates a healthy and pleasant air environment.

High collection efficiency

Ultra-fine fibers in a three-dimensional structure means even finer voids and higher collection efficiency.

- An initial collection efficiency of at least 80% for 0.4 to 0.7 μm particles (The initial efficiency of comparable products on the market is 50 to 60% for 0.4 μm and 60 to 70% for 0.7 μm)
- Collects particles effectively from the start without relying on the clogging effect
- MERV 14 certified by a US third-party organization



A collection efficiency of 95% far exceeds that of the mid-performance filters in our lineup used as standard in building air conditioning equipment.

Results of collection efficiency testing

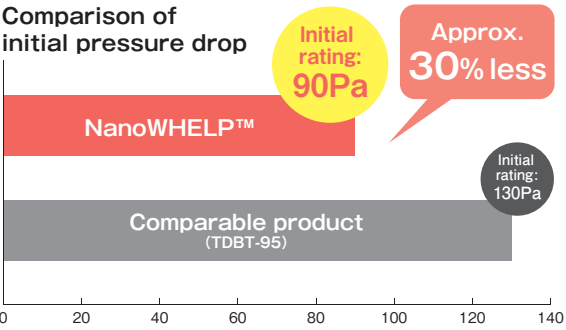
Test results	Initial pressure drop (Pa)		90
	Final pressure drop (Pa)		375
	Initial collection efficiency (%)	0.4 μm	80
		0.7 μm	87
	Average collection efficiency (%)	0.4 μm	92
		0.7 μm	95
	Final collection efficiency (%)	0.4 μm	98
		0.7 μm	99
	Dust loading rate (g/m²)		700
Remarks	96% collection efficiency for PM 2.5 (calculated from average collection efficiency)		

Note : The collection efficiencies on this page were determined using a filter media of 610×610×65 mm and an air flow rate of 56 m³/min in line with JIS B 9908: 2011 Type 2.

Low pressure drop

The fineness of the fibers means more voids and more channels through which air can flow, allowing NanoWHELP™ to achieve a low initial pressure drop.

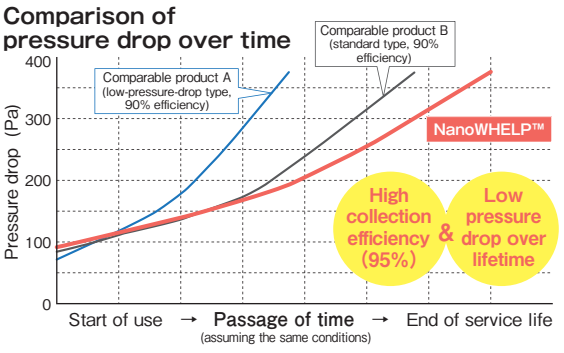
- Initial pressure drop approximately 30% lower than comparable products
- Rated initial pressure drop of 90 Pa



Long lifespan

NanoWHELP™ achieves a long lifespan thanks to the thinness of its filter material which means more dust-holding capacity.

- Pressure drop over time is lower than competitors
- Pressure drop starts low and stays low
- Greater purification and energy-saving



NanoWHELP BT

Key features

- 1 An ultra-thin mini-pleat form factor incorporates resin bead separators.
- 2 Space-saving design is easy to install and remove.
- 3 The design offers greater freedom in size and shape with no space lost to separators.
- 4 A combination of electret non-woven fibers and density gradient nonwoven fabric ensures low pressure drop, high collection efficiency, and long lifespan.
- 5 Air pressure resistance is excellent.
- 6 There is no re-scattering of collected dust.



NanoWHELP MP

Key features

- 1 Multi-purpose pleat technology eclipses traditional mini pleat designs to achieve ideal performance.
- 2 A wider bead spacing on the intake side of the filter media allows more inflow of air.
- 3 A narrower bead spacing on the outflow side of the filter media helps it resist deformation.

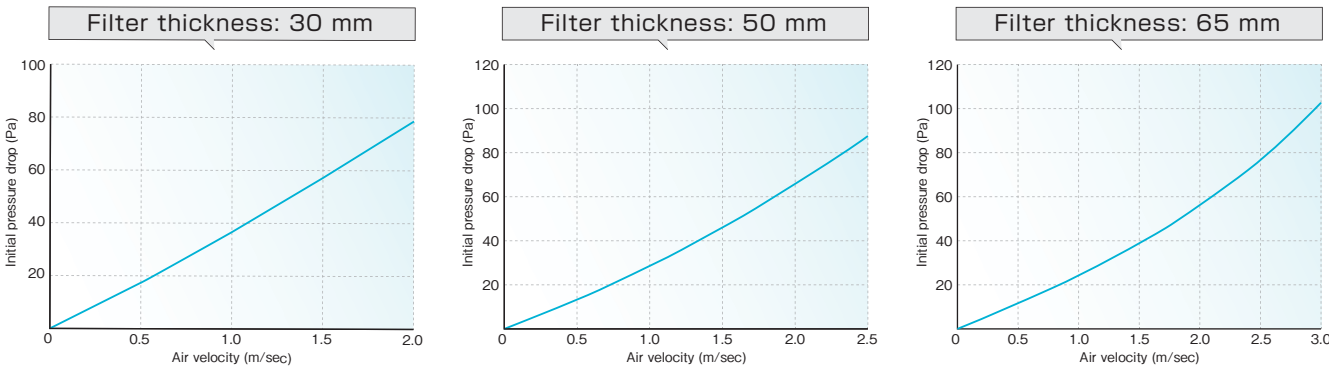


Standard specifications (Non-standard sizes are available on request)

Product No.	Filter thickness (mm)	PM2.5 collection efficiency(%)*	Particle collection efficiency(%)*		Rated air velocity (m/sec)	Rated air flow (m³/min)	Initial pressure drop (Pa)	Final pressure drop (Pa)	Standard size W×H×T (mm)
			0.4 μm	0.7 μm					
NWB-T95	30	95	85	90	1.5	31	58	375	610×610×30
	50				2.25	46	76		610×610×50
	65				2.75	56	90		610×610×65

*In accordance with JIS B 9908: 2011 Type 2

Initial pressure drop



Materials

Item	Material
Frame	Aluminum, plywood, zinc coated plate, stainless steel
Filter media	Electret non-woven fabric
Separator	Resin beads
Sealant	Special adhesive
Gasket	Neoprene rubber

Note : Filter thickness does not include gasket.

Use conditions

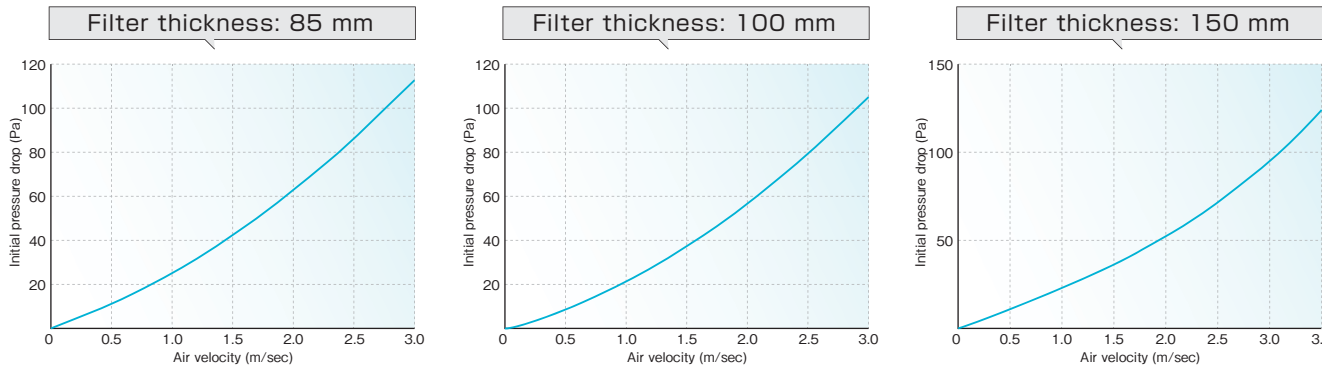
Maximum use temperature	Continuous use: 60°C Intermittent use: 80°C
Maximum use humidity	95% RH

Standard specifications (Non-standard sizes are available on request)

Product No.	Filter thickness (mm)	PM2.5 collection efficiency(%)*	Particle collection efficiency(%)*		Rated air velocity (m/sec)	Rated air flow (m³/min)	Initial pressure drop (Pa)	Final pressure drop (Pa)	Standard size W×H×T (mm)
			0.4 μm	0.7 μm					
NWMP-95	85	95	85	90	2.75	56	102	375	610×610×85
	100				2.75	56	94		610×610×100
	150				2.75	56	85		610×610×150

*In accordance with JIS B 9908: 2011 Type 2

Initial pressure drop



Materials

Item	Material
Frame	Aluminum, plywood, zinc coated plate, stainless steel
Filter media	Electret non-woven fabric
Separator	Resin beads
Sealant	Special adhesive
Gasket	Neoprene rubber

Note : Filter thickness does not include gasket.

Use conditions

Maximum use temperature	Continuous use: 60°C Intermittent use: 80°C
Maximum use humidity	95% RH

NanoWHELP WP

Key features

- 1 The surface area of the filter is maximized by further folding each block of the mini-pleated filter media (8 blocks in total) into a V shape.
- 2 The end of each pleat on the inflow side is reinforced by a specially designed holder to maintain the shape of the filter media during use.

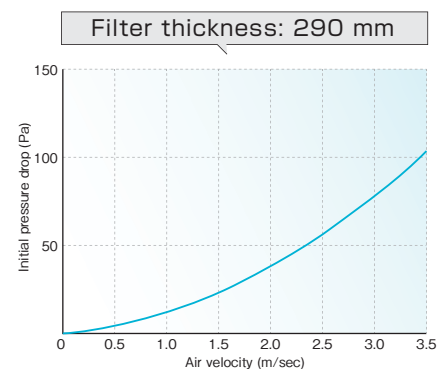


Standard specifications (Non-standard sizes are available on request)

Product No.	Filter thickness (mm)	PM2.5 collection efficiency (%)*	Particle collection efficiency (%)*		Rated air velocity (m/sec)	Rated air flow (m³/min)	Initial pressure drop (Pa)	Final pressure drop (Pa)	Standard size W×H×T (mm)
			0.4 μm	0.7 μm					
NWWP-95	290	95	85	90	2.75	56	68	375	610×610×290

*In accordance with JIS B 9908: 2011 Type 2

Initial pressure drop



Materials

Item	Material
Frame	Aluminum, plywood, zinc coated plate, stainless steel
Filter media	Electret non-woven fabric
Separator	Resin beads
Sealant	Special adhesive
Gasket	Neoprene rubber

Note : Filter thickness does not include gasket.

Use conditions

Maximum use temperature	Continuous use: 60°C Intermittent use: 80°C
Maximum use humidity	95% RH


MERV14

(US Certification)

NanoWHELP™ has earned **MERV 14 certification**, outperforming MERV 13 filters which are the highest level used for building air conditioning. Among medium-to-high performance filters, **NanoWHELP™** stakes its claim as the only Japan-made filter to achieve MERV 14 certification.

What is MERV?

MERV is a U.S.A. filter standard (ASHRAE 52.2 (2017)) that rates filter efficiency on a scale from MERV 1 to MERV 16. MERV 14 specifies a collection efficiency for 0.3 to 1 μm particles of at least 75% but not exceeding 85%.

		Date: 13-May-21	TEST NO. 11-280-1
2820 S. English Station Road - Louisville, KY 40299 Tel: (502) 357-0132 Fax: (502) 267-8371		Test Report ANSI/ASHRAE Standard 52.2-2017	
Filter Description Manufacturer: AQC Corp Filter Model: YTBT-95 Part Number: N/A Generic Filter Type: Pleated Nominal Dimensions (H x W x D): 24" x 24" x 2.6" Pocket / Pleat Quantity: Standard Media Type: NanoFiber Est. Gross Media Area: Standard Adhesive Type: Hot Melt			
Test Conditions Loading Dust Type: ASHRAE Barometric Pressure (In. Hg.): 29.72 Test Air Temp (degrees F.): 74 Relative Humidity (%): 45		Test Results Airflow Rate (CFM): 1977 Nominal Face Velocity (fpm): 492 Initial Resistance (in WG): 0.32 Final Resistance (in WG): 1.53 Dust Fed (gms) to Final Resistance: 164 E1 (%) Composite Minimum Avg. Efficiency 0.30 - 1.0 μm: 81 E2 (%) Composite Minimum Avg. Efficiency 1.0 - 3.0 μm: 96 E3 (%) Composite Minimum Avg. Efficiency 3.0 - 10.0 μm: 99 Minimum Efficiency Reporting Value (MERV): MERV 14 @ 1977 CFM	
Remarks Comments: Tested For: Yamashin-Filter Corp. Final Pressure Drop ("w.c.): 1.50" w.c. Dust Holding Capacity (gms): 164 Average Arrestance (%): 100.0		Lab Technician Performing Test: CR Approved By:  Test Completed: 13-May-21	

Small lot sizes

We can manufacture as many or as few filters as the customer needs

Fast turnaround

Products are delivered to customers quickly and efficiently

Made-to-order

By making to order, we can tailor our products to customers' specific needs

In August of 2020, AQC Corporation moved its manufacturing base to **a new factory on a site 3.8 times the size of its predecessor**, bolstering its abilities in terms of small lot sizes, fast turnaround, and made-to-order production. From a new stage befitting a new era, AQC will leverage its evolution to supply products that meet the needs of its customers.

