MITSUBISHI ELECTRIC

Split Systems

Filters

Indoor Unit Filter Guide

Indoor air quality has increasingly become a priority for people in their home and workplace. Mitsubishi Electric air conditioners are equipped with different types of air filters. The table below shows which models have what type of filters and the following pages explain their effectiveness.

Model	Air Filter	Nano Platinum Filter	Air Purifying Filter	Plasma Quad Plus Filter	Anti-Allergy Enzyme Filter	Electrostatic Anti-Allergy Enzyme Filter
 MSZ-AP15-20	Standard E22 K90 100					
 MSZ-AP22-50			Standard E22 99G 100		Standard MAC-408FT-E	Optional MAC-2320FT-E
 MSZ-AP60-80			Standard E12 41G 100		Standard MAC-2350FT-E	Optional MAC-2310FT-E
 MSZ-AS90	Standard E22 93N 100				Standard MAC-1415FT-E	
 MSZ-LN	Standard E22 Y52 100 E22 Y64 100 (red model)			Standard E22 Y52 774		
 MSZ-EF		Standard E22 16H 100				Optional MAC-2320FT
 MSY-GW25-42		Standard E12 L36 100			Optional MAC-408FT-E	
 MSY-GW50-60		Standard E12 N94 100			Optional MAC-408FT-E	
 MSY-GW71-80		Standard E12 F28 100			Optional MAC-2350FT-E	
 MSZ-GS25-60	Standard E22 J98 100 (GS25/35) E22 N87 100 (GS50/60)				Optional MAC-508FT-E MAC-408FT-E	
 MSZ-GS71-80	Standard E22 L53 100				Optional MAC-2350FT-E	
 MFZ-KW			Standard M21 EAS 100		Standard MAC-408FT-E	
 MLZ-KP			Standard M21 EBF 100		Standard MAC-408FT-E	

Filters

Air Filter
Anti-Mould

The Air Filter is a primary dust filter with anti-mould treatment.

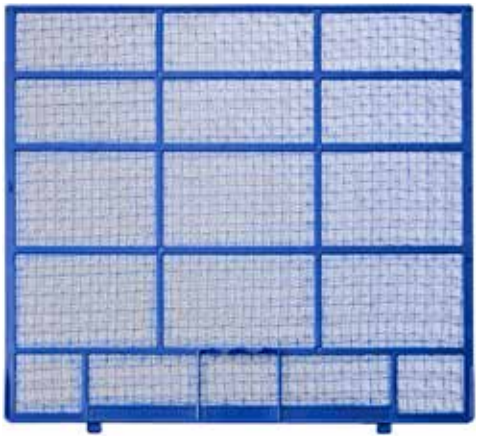
- Applicable models:
  MSZ-AP15-20
  MSZ-AS90
  MSZ-LN Series
  MSZ-GS Series

Filter Effectiveness Test Results

Anti-Mould*[1]

When mould spores were applied (Aspergillus niger, Chaetomium globosum and Penicillium citrinum) to the filter, 28 days later, there was no mould growth detected.

Maintenance: Category A (refer to page 8)



Nano Platinum Filter

Airborne Viruses, Anti-Bacterial, Anti-Mould & Deodorising

This filter is a primary filter that captures dust and other contaminants. It has a large capture area and incorporates nanometre-sized platinum-ceramic particles that can inhibit contaminants in the circulating air.

- Applicable models:
  MSZ-EF Series
  MSY-GW Series

Filter Effectiveness Test Results

Virus*[2]

The Influenza A virus is eliminated by up to 81.23% in 24 hours.

Bacteria*[3]

Test results demonstrated a reduction of Staphylococcus aureus and E. coli by up to 99.9% in 24 hours.

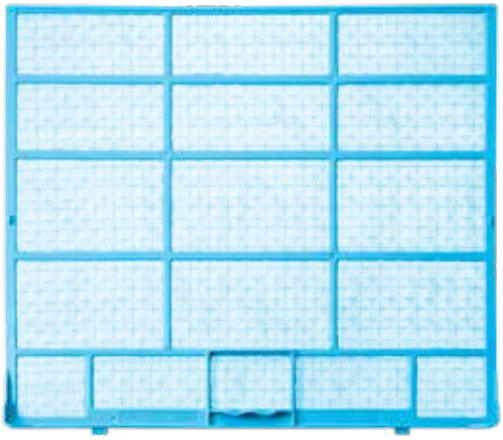
Mould*[4]

When mould spores were applied (Aspergillus niger, Chaetomium globosum, Penicillium citrinum and Myrothecium verrucaria) to the filter, 14 days later, there was no mould growth detected.

Deodorising*[5]

An air purifier tested for 60 minutes demonstrated the deodorising effect and can filter up to; ammonia 80.7%, Acetaldehyde 39.2%, Acetic acid 49.5% and tobacco 41.6% in the air.

Maintenance: Category A (refer to page 8)



Air Purifying Filter

Airborne Viruses, Anti-Bacterial, Anti-Mould & Deodorising

The Air Purifying Filter is a primary air filter with a wide capture area that effectively inhibits contaminants in the circulating air.

- Applicable models:
  MSZ-AP22-80
  MFZ-KW Series
  MLZ-KP Series

Filter Effectiveness Test Results

Virus*[6]

There was a reduction of up to 92.84% in 24 hours when tested for the Influenza A virus.

Bacteria*[7]

Bacteria test conducted demonstrated a reduction up to; Staphylococcus aureus 98.5%, Klebsiella pneumoniae 99.9%, and E. coli 91.7% in 24 hours.

Mould*[8]

When mould spores were tested (Aspergillus niger, Chaetomium globosum, Penicillium funiculosum, Paecilomyces variotii and Gliocladium virens), the filter had no mould growth detected in 28 days.

Deodorising*[9]

The deodorising effect of an air purifier operating for 60 minutes confirmed it could filter up to; tobacco 39.3%, ammonia 67.2% and Acetaldehyde 38.0% in the air.

Maintenance: Category A (refer to page 8)

Plasma Quad Plus Filter

Airborne Viruses, Bacteria, PM2.5, Allergens, Mould & Dust

The Plasma Quad Plus Filter is a secondary filter that utilises powerful plasma technology to generate ions, which inhibit contaminants in the air. The filter captures particles as small as PM2.5 and measures 2.5 micrometres in diameter or smaller (0.0025mm). These particles can be harmful to your health. Smoke from fires, wood heaters and engine exhausts are a common source of these particles.

- Applicable model:
  MSZ-LN Series

Maintenance: Category C (refer to page 8)

Filter Effectiveness Test Results

Virus*[10]

The Influenza A virus is eliminated by up to 99% after 72 minutes in a 25m^3 test space (@1.0m/s).

Bacteria*[11]

There was a reduction of up to 99% after 162 minutes in a 25m^3 test space when tested for airborne bacteria (Staphylococcus aureus).

PM2.5*[12]

PM2.5 particles generated by cigarette smoke were reduced by up to; 90%, after 83 minutes and 99%, after 166 minutes in a 28m^3 test space.

Allergen*[13]

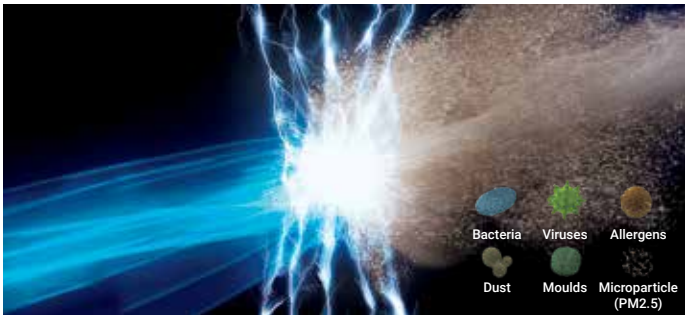
The Plasma filter inhibits up to 98% of airborne allergens (cat allergen and pollen) after passing through the filter only once.

Mould*[14]

Airborne mould is reduced by up to 99% after 135 minutes in a 25m^3 test space.

Dust*[15]

Airborne dust particles (sized 1 micron or larger) are eliminated by up to 99.7% after passing through the Plasma filter once.



Anti-Allergy Enzyme Filter

Anti-Virus, Anti-Bacterial & Anti-Allergy

The Anti-Allergy Enzyme Filter is a secondary filter that compliments the primary filter. It works to trap allergens such as pollen and tick antigens and decompose them using enzymes retained in the filter. The filter fibres also have an anti-viral and anti-bacterial treatment.

- Applicable models:
  MSZ-AP22-80
  MSZ-AS90
  MSY-GW Series (optional)
  MSZ-GS Series (optional)
  MFZ-KW Series
  MLZ-KP Series

Electrostatic Anti-Allergy Enzyme Filter

Anti-Virus, Anti-Bacterial & Anti-Allergy

Available as an optional upgrade for specific models, the Electrostatic version of the Anti-Allergy Enzyme Filter increases the dust attraction by up to 3 times. By a process in which the filter fibres are permanently electrostatically charged.

- Applicable models:
  MSZ-AP22-80 (optional)
  MSZ-EF Series (optional)

Filter Effectiveness Test Results

Virus*[16]

The results confirmed the number of viruses in the virus suspension decreased by up to 99.9% in 24 hours when tested for the Influenza A virus (3cm x 3cm sample).

Bacteria*[18]

Test results demonstrated a reduction of Staphylococcus aureus and E. coli by up to 99% in 18-24 hours.

Allergen*[17]

Shinshu University confirmed the adsorption of tick antigens by up to 98% and pollen up to 99% in one hour. Test results also concluded that the filter decomposed the tick antigens and pollen once captured in the filter.

Maintenance: Category B (refer to page 8)

Maintenance

How often should I clean my Air Conditioner Filters?

If you operate your air conditioner regularly, you should clean the primary air filter every two weeks. Filters that have become clogged with dust decrease energy efficiency, and keeping the filters as clean as possible ensures the effective performance of the system.

Category A (Primary Air Filters)

Every 2 weeks:

- Remove dirt with a vacuum cleaner or rinse with water
- After washing the filter with water, dry it well in the shade

Category B (Anti-Allergy Secondary)

Every 3 months:

- Remove dirt with a vacuum cleaner
- If you cannot remove the dirt, soak the filter together with its frame in lukewarm water and then rinse (you can use mild detergents)
- After washing the filter, dry it well in the shade

Lifespan:

- Replace the filter every 12 months for best performance

Category C (Plasma Quad)

Every 3 months:

- Remove dirt with a vacuum cleaner
- If you cannot remove the dirt, soak the filter together with its frame in lukewarm water and then rinse
- After washing the filter, dry it well in the shade

Test Information

Filter	Pollutants	Testing Standard	Testing Organisation	Result
Air Filter	Mould	JIS Z2911:2000*1	Supplier's in-house investigation	No mould growth was detected within 28 days of testing; Aspergillus niger, Chaetomium globosum and Penicillium citrinum
Nano Platinum Filter	Virus	ISO 18184:2014*2	Guangdong Detection Center of Microbiology	Inhibits up to 81.23% of the Influenza A virus within 24 hours of testing
	Bacteria	JIS L1902*3	Boken Quality Evaluation Institute	Inhibits up to 99.9% of Staphylococcus aureus and Escherichia coli within 24 hours of testing
	Mould	JIS Z2911*4	Boken Quality Evaluation Institute	No mould growth was detected within 14 days of testing; Aspergillus niger, Chaetomium globosum, Penicillium citrinum and Myrothecium verrucaria
	Odour	JEM1467:1995*5	Supplier's in-house investigation	An air purifier operating for 60 minutes demonstrated the deodorising effect up to; ammonia 80.7%, Acetaldehyde 39.2%, Acetic acid 49.5% and tobacco 41.6%
Air Purifying Filter	Virus	ISO 18184:2014*6	Guangdong Detection Center of Microbiology	Inhibits up to 92.84% of the Influenza A virus within 24 hours of testing
	Bacteria	JIS L1902:1998*7	Supplier's in-house investigation	Inhibits up to; Staphylococcus aureus 98.5%, Klebsiella pneumoniae 99.9% and Escherichia coil 91.7% within 24 hours of testing
	Mould	JIS Z2911:2000*8	Supplier's in-house investigation	No mould growth was detected within 28 days of testing; Aspergillus niger, Chaetomium globosum, Penicillium funiculosum, Paecilomyces variotii and Gliocladium virens
	Odour	JEM1467:1995*9	Supplier's in-house investigation	An air purifier operating for 60 minutes demonstrated the deodorising effect up to; tobacco 39.3%, ammonia 67.2%, Acetaldehyde 38.0%
Plasma Quad Plus Filter	Virus	JEM1467:2015*10	vrc.center, SMC	Inhibits up to 99% of the Influenza A virus within 72 minutes of testing in a 25m^3 test space (@1.0m/s)
	Bacteria	JEM1467:2015*11	KRCES-Bio.	Inhibits up to 99% of Staphylococcus aureus within 162 minutes in a 25m^3 test space
	PM2.5	JEM1467:2015*12	Mitsubishi Electric Corporation *In-company investigation	Inhibits PM2.5 particles generated by cigarette smoke up to; 90%, after 83 minutes and 99%, after 166 minutes in a 28m^3 test space
	Allergen	Elisa Sandwich*13	ITEA Inc.	Inhibits up to 98% of airborne allergens (cat allergen and pollen) after passing through the filter only once
	Mould	JEM1467:2015*14	Japan Food Research Laboratories	Inhibits up to 99% of airborne mould (Penicillium citrinum) within 135 minutes in a 25m^3 test space
	Dust	Elisa Sandwich*15	ITEA Inc.	Inhibits up to 99.7% of dust particles (sized 1 micron or larger) after passing through the Plasma filter once
Anti-Allergy Enzyme Filter	Virus	ISO 18184:2014*16	Japan Food Research Laboratories	Inhibits up to 99.9% of the Influenza A virus within 24 hours of testing
	Allergen	Elisa Sandwich*17	Shinshu University	Confirmed the adsorption of tick antigens by up to 98% and pollen by up to 99% in one hour of operation, and the filter decomposed the antigens and pollen
	Bacteria	JIS L1902*18	Boken Quality Evaluation Institute	Inhibits up to 99% of Staphylococcus aureus and Escherichia coli within 18-24 hours of testing
Electrostatic Anti-Allergy Enzyme Filter	Virus	ISO 18184:2014*16	Japan Food Research Laboratories	Inhibits up to 99.9% of the Influenza A virus within 24 hours of testing
	Allergen	Elisa Sandwich*17	Shinshu University	Confirmed the adsorption of tick antigens by up to 98% and pollen by up to 99% in one hour of operation, and the filter decomposed the antigens and pollen
	Bacteria	JIS L1902*18	Boken Quality Evaluation Institute	Inhibits up to 99% of Staphylococcus aureus and Escherichia coli within 18-24 hours of testing

Notes:
JEM: Standards of the Japan Electrical Manufacturer's Association.
JIS: Japanese Industrial Standards.
ISO: International Organisation for Standardisation.

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