# MSZ-AY SERIES

The AY series has an excellent cleanliness feature and ranges to two models: the VGK model comes standard with the V Blocking Filter, which has antiviral, antibacterial, anti-mold, and anti-allergen effects, and the VGKP model comes standard with Plasma Quad Plus, which can collect PM2.5 dust in addition to these effects. The AY series has also been upgraded in terms of quietness, energy efficiency, and ease of installation. Enjoy a comfortable air environment with the AY series.

R32

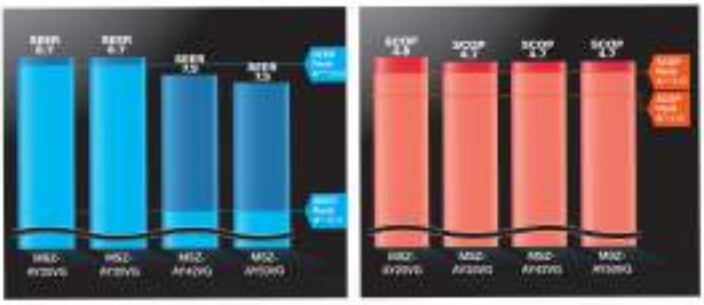
R410A

MSZ-AY25/35/42/50VGK(P)

## High energy saving

SEER A+++ SCOP A++

The AY series have achieved either the "Rank A$^{+++}$" or "Rank A$^{++}$" for SEER and SCOP as energy-savings rating.
The high-efficiency air conditioner is eco-friendly and economical.



## Matt and Sophisticated Design

**Rounded corners**
The rounded corners give a soft impression that blends in with any room.

**Simple and Compact size**
While the plasma is built-in, the angle of the curve is carefully designed to maintain the compact unit.

The elegant and sophisticated design has been created to fit in any room, with careful attention to detail in the surface finish and panel angles.

# Plasma Quad Plus (only VGKP model)

You can enjoy the clean and safe air by Plasma Quad Plus.

Plasma Quad Plus is a plasma-based filtering system which contributes to a better air quality in your room. Plasma Quad Plus applies a voltage of approximately 6,000 volts to the electrode to generate plasma, effectively removing various kinds of airborne particles such as viruses, bacteria, mold, allergen, dust, and PM2.5.

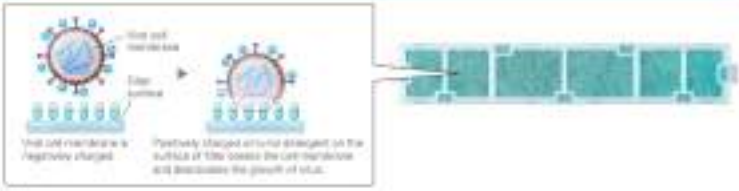

**We have confirmed Plasma Quad Plus inhibits 99% of adhered COVID-19.**

*Tested Organization: National Hospital Organization Sendai Medical Center, Test Report No. 84-001 Test result: Neutralized 99% of influenza A virus in 210.5 minutes in a 25m³ test space.

*Tested Organization: Japan Textile Products Quality and Technology Center, Test Report No: 20KB07068, Tested Materials: SARS-CoV-2, Test Method: Original (The test was conducted on the Plasma Quad device alone, not designed to evaluate product performance.) Test Result: Inhibited 99.9% in 360 minutes. The result without the effect of natural attenuation is 86.3%.

## V Blocking Filter (only VGK model)

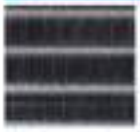
"V Blocking Filter" with antiviral effect inhibits 99% of adhered virus, and other harmful substances, such as bacteria, mold and allergen. Two-layered filter with non-woven fabric and electrostatic filter can effectively capture and remove small particles from the air in your room.



*Virus Test method: JIS L 1922, Tested Organization: Guangdong Detection Center of Microbiology, Test Report No: 2020FM30109902D, Test result: 99% neutralized in 24 hours in a Testing Container.
Bacteria Test method: JIS L 1902, Tested Organization: Boken Quality Evaluation Institute, Test Report No: 20020000906-1, Test result: 99% neutralized in 16 hours in a Petri dish.
Mold Test method: JIS Z 2911, Tested Organization: Boken Quality Evaluation Institute, Test Report No: 20020000906-1, Test result: No mold growth was confirmed.
Allergen Test method: ELISA, Tested Organization: Daiwa Chemical Industries Co., Ltd, Test Report No: 20210282, Test result: 98% neutralized in 24 hours.

## Dual Barrier Coating

Mitsubishi Electric's Dual Barrier Coating prevents dust and greasy dirt from accumulating on the inner surface of the indoor unit, keeping your air conditioner clean. Hydrophilic material resists oil stains and hydrophobic material resists dust stains.

| ❶ Heat Exchanger | | ❷ Fan | | ❸ Air Duct | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| No Dual Barrier Coating used (Image after 10years) | Dual Barrier Coating used | No Dual Barrier Coating used (Image after 10years) | Dual Barrier Coating used | No Dual Barrier Coating used (Image after 10years) | Dual Barrier Coating used |

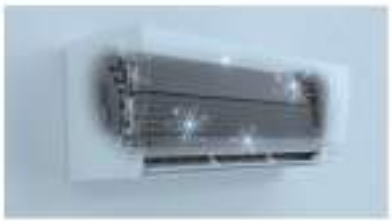

## Self Clean

When Self Clean Mode is activated, fan operation starts after cooling/dry mode. This operation helps to dry inside indoor unit to prevent molds and odors. You can feel the clean air without frequent cleaning by yourself.

❶ High humidity inside the unit, which can lead to mold growth and odors.

❷ Airflow operation suppresses mycelial growth.

❸ Maintains clean unit interior.



*When SELF CLEAN operation is set, it performs for 25 minutes when unit is stopped after COOL/DRY operation.
SELF CLEAN operation performs when COOL/DRY is operated more than 3 minutes.
The fan is stopped for the first 3 minutes. Then, the horizontal vane is set to higher than angle 1 and the fan is operated for 25 minutes.
To enable this function, press "Self Clean Mode" button on remote controller. (Default setting is OFF)

## Quietness 18dB

**Noiseless 18dB**


Quiet, relaxing space is within reach. Operational noise is 18dB (25/35 classes), which is so quiet that you might even forget the air conditioner is on.

## Night mode

When Night Mode is activated using the wireless remote controller, air conditioner operation will switch to the following settings.

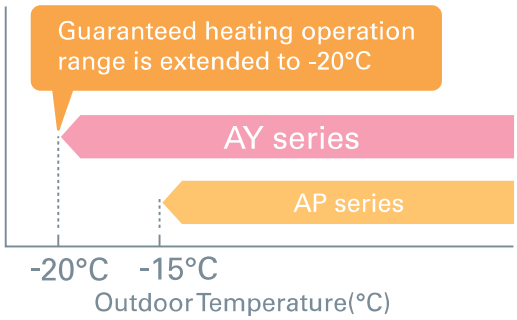
- The brightness of the operation indicator lamp will become dimmer.
- The beeping sound will be disabled.
- The outdoor operating noise will be 3dB lower than the rated operating noise specification.

*The cooling/heating capacity may drop.


## Wider Heating Operation Range

Mitsubishi Electric technology ensures that the unit will operate even when the outside temperature is down to -20°C.

**Wider Heating Operation Range**




## Outdoor Units for Cold Region

Single split-type outdoor units are available in both standard and heater-equipped units. An electric heater is installed in each unit to prevent freezing in cold outdoor environments.

**Standard Units**

MUZ-AY25/35/42VG

MUZ-AY50VG

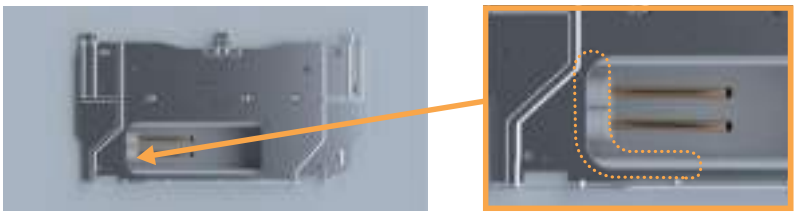
**Heater Installed**

MUZ-AY25/35/42VGH

MUZ-AY50VGH

## Back Plate with a Hole

With a hole as default in the center of the back plate, the piping can be easily taken out from the back. The edge of the hole is reinforced to ensure the strength.



The edge of the hole is reinforced to ensure the strength.

## Spacer

A part of the packing material can be used as a spacer to lift indoor unit during the left-side piping work, which makes stable installation work possible.

## Built-in Wi-Fi & App Control

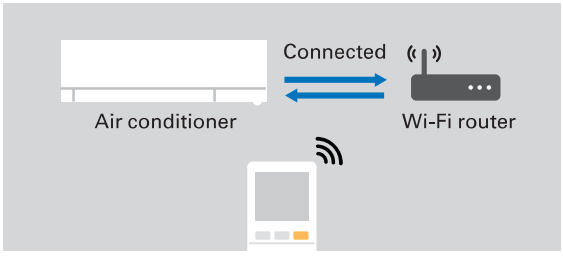
Indoor unit is equipped with Wi-Fi interface which allows you to access MELCloud app, providing you with a flexible control of air conditioner on your smartphone, tablets, and PC.

[ key control and monitoring features ]

- On/Off
- Check and set driving conditions
- Notification of weather conditions from current location
- Weekly timer set
- Energy consumption check
- Air purification on/off


## Easy Wi-Fi Set Up

You can easily connect Wi-Fi adaptor in the indoor unit and your local router with just a simple operation of remote controller.




## Remote Controller features

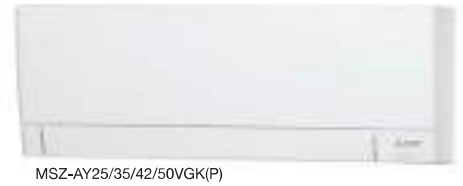
The remote controller screen is equipped with LED backlight. The luminous screen allows you to check the setting easily even in the dark. You can easily connect Wi-Fi adaptor in the indoor unit and your local router with just a simple operation of remote controller.

# MSZ-AY SERIES

Joint Lap | DC Fan Motor | PAM | Grooved Piping | SEER A+++ | SCOP A++

## Indoor Unit

R32 R410A



MSZ-AY25/35/42/50VGK(P)

## Outdoor Unit

R32

MUZ-AY25/35/42VG(H)

MUZ-AY50VG(H)

## Remote Controller

Circulator -SG Only | Econo Cool -E,-ET,-ER Only | Plasma Quad Plus VGKP Only | Air Purifying | V Blocking Filter VGK Only | Self Clean Mode | Dual Barrier Coating | AUTO VANE | SWING | SWING | AUTO | Night | Back Light Remote | Weekly Timer | i save

ACO | Auto Restart | Low Temp Cooling | Optional | Group Control Optional | M-NET connection Optional | Wi-Fi Interface | MXZ connection | 10°C | Indoor | Cleaning-free pipe route | Flare connection | Self Diagnosis | Failure Recall

| Type | | | | Inverter Heat Pump | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Indoor Unit | | | | MSZ-AY25VGK(P) | MSZ-AY25VGK(P) | MSZ-AY35VGK(P) | MSZ-AY35VGK(P) | MSZ-AY42VGK(P) | MSZ-AY42VGK(P) | MSZ-AY50VGK(P) | MSZ-AY50VGK(P) |
| Outdoor Unit | | | | MUZ-AY25VG | MUZ-AY25VGH | MUZ-AY35VG | MUZ-AY35VGH | MUZ-AY42VG | MUZ-AY42VGH | MUZ-AY50VG | MUZ-AY50VGH |
| Refrigerant | | | | R32(*1) | | | | | | | |
| Power Supply | Source | | | Outdoor Power supply | | | | | | | |
| | Outdoor ( V / Phase / Hz ) | | | 230/Single/50 | | | | | | | |
| Cooling | Design load | | kW | 2.5 | 2.5 | 3.5 | 3.5 | 4.2 | 4.2 | 5.0 | 5.0 |
| | Annual electricity consumption (*2) | | kWh/a | 100 | 100 | 141 | 141 | 186 | 186 | 232 | 232 |
| | SEER (*4) | | | 8.7 | 8.7 | 8.7 | 8.7 | 7.9 | 7.9 | 7.5 | 7.5 |
| | | Energy efficiency class | | A+++ | A+++ | A+++ | A+++ | A++ | A++ | A++ | A++ |
| | Capacity | Rated | kW | 2.5 | 2.5 | 3.5 | 3.5 | 4.2 | 4.2 | 5.0 | 5.0 |
| | | Min-Max | kW | 0.9-3.4 | 0.9-3.4 | 1.1-3.8 | 1.1-3.8 | 0.9-4.5 | 0.9-4.5 | 1.4-5.4 | 1.4-5.4 |
| | Total Input | Rated | kW | 0.600 | 0.600 | 0.990 | 0.990 | 1.300 | 1.300 | 1.540 | 1.540 |
| Heating (Average Season)(*5) | Design load | | kW | 2.4 (-10°C) | 2.4 (-10°C) | 2.9 (-10°C) | 2.9 (-10°C) | 3.8 (-10°C) | 3.8 (-10°C) | 4.2 (-10°C) | 4.2 (-10°C) |
| | Declared Capacity | at reference design temperature | kW | 2.4 (-10°C) | 2.4 (-10°C) | 2.9 (-10°C) | 2.9 (-10°C) | 3.8 (-10°C) | 3.8 (-10°C) | 4.2 (-10°C) | 4.2 (-10°C) |
| | | at bivalent temperature | kW | 2.4 (-10°C) | 2.4 (-10°C) | 2.9 (-10°C) | 2.9 (-10°C) | 3.8 (-10°C) | 3.8 (-10°C) | 4.2 (-10°C) | 4.2 (-10°C) |
| | | at operation limit temperature | kW | 1.9 (-20°C) | 1.9 (-20°C) | 2.0 (-20°C) | 2.0 (-20°C) | 2.7 (-20°C) | 2.7 (-20°C) | 3.0 (-20°C) | 3.0 (-20°C) |
| | Back up heating capacity | | kW | 0.0 (-10°C) | 0.0 (-10°C) | 0.0 (-10°C) | 0.0 (-10°C) | 0.0 (-10°C) | 0.0 (-10°C) | 0.0 (-10°C) | 0.0 (-10°C) |
| | Annual electricity consumption (*2) | | kWh/a | 697 | 709 | 863 | 880 | 1131 | 1146 | 1248 | 1265 |
| | SCOP (*4) | | | 4.8 | 4.7 | 4.7 | 4.6 | 4.7 | 4.6 | 4.7 | 4.6 |
| | | Energy efficiency class | | A++ | A++ | A++ | A++ | A++ | A++ | A++ | A++ |
| | Capacity | Rated | kW | 3.2 | 3.2 | 4.0 | 4.0 | 5.2 | 5.2 | 5.5 | 5.5 |
| | | Min | kW | 1.0 | 1.0 | 1.3 | 1.3 | 1.3 | 1.3 | 1.4 | 1.4 |
| | | Max at 7°C | kW | 4.1 | 4.1 | 4.6 | 4.6 | 6.0 | 6.0 | 7.3 | 7.3 |
| | Total Input | Rated | kW | 0.780 | 0.780 | 1.030 | 1.030 | 1.390 | 1.390 | 1.470 | 1.470 |
| Operating Current (Max) | | | A | 7.6 | 7.6 | 7.6 | 7.6 | 9.9 | 9.9 | 13.8 | 13.8 |
| Indoor Unit | Input | Rated | kW | 0.026 | 0.026 | 0.026 | 0.026 | 0.032 | 0.032 | 0.032 | 0.032 |
| | Operating Current (Max) | | A | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| | Dimensions | H*W*D | mm | 299-798-245 | 299-798-245 | 299-798-245 | 299-798-245 | 299-798-245 | 299-798-245 | 299-798-245 | 299-798-245 |
| | Weight | | kg | VGKP:11, VGK:10.5 | VGKP:11, VGK:10.5 | VGKP:11, VGK:10.5 | VGKP:11, VGK:10.5 | VGKP:11, VGK:10.5 | VGKP:11, VGK:10.5 | VGKP:11, VGK:10.5 | VGKP:11, VGK:10.5 |
| | Air Volume (SLo-Lo-Mid-Hi-SHi(*3)) | Cooling | $m^3$/min | 3.6- 5.0 - 6.3 - 7.8- 10.5 | 3.6- 5.0 - 6.3 - 7.8- 10.5 | 3.6- 5.0 - 6.3 - 7.8 - 11.1 | 3.6- 5.0 - 6.3 - 7.8 - 11.1 | 4.5 - 5.7 - 7.0 - 8.4 - 10.5 | 4.5 - 5.7 - 7.0 - 8.4 - 10.5 | 5.2 - 6.4 - 7.5 - 9.1 - 11.7 | 5.2 - 6.4 - 7.5 - 9.1 - 11.7 |
| | | Heating | $m^3$/min | 4.0 - 5.0 - 6.8 - 8.0 - 11.8 | 4.0 - 5.0 - 6.6 - 8.0 - 11.8 | 4.0 - 5.0 - 6.6 - 8.0 - 11.8 | 4.0 - 5.0 - 6.6 - 8.0 - 11.8 | 4.4 - 5.4 - 7.0 - 8.6 - 12.9 | 4.4 - 5.4 - 7.0 - 8.6 - 12.9 | 4.8 - 5.7 - 7.3 - 9.1 - 12.9 | 4.8 - 5.7 - 7.3 - 9.1 - 12.9 |
| | Sound Level (SPL) (SLo-Lo-Mid-Hi-SHi(*3)) | Cooling | dB(A) | 18 - 24 - 30 - 36 - 42 | 18 - 24 - 30 - 36 - 42 | 18 - 24 - 30 - 36 - 42 | 18 - 24 - 30 - 36 - 42 | 21 - 29 - 34 - 39 - 42 | 21 - 29 - 34 - 38 - 42 | 28 - 33 - 36 - 40 - 44 | 28 - 33 - 36 - 40 - 44 |
| | | Heating | dB(A) | 18 - 24 - 34 - 39 - 45 | 18 - 24 - 34 - 39 - 45 | 18 - 24 - 31 - 38 - 45 | 18 - 24 - 31 - 38 - 45 | 21 - 29 - 35 - 40 - 45 | 21 - 29 - 35 - 40 - 45 | 28 - 33 - 38 - 43 - 48 | 28 - 33 - 38 - 43 - 48 |
| | Sound Level (PWL) | Cooling | dB(A) | 57 | 57 | 57 | 57 | 57 | 57 | 58 | 58 |
| Outdoor Unit | Dimensions | H*W*D | mm | 550-800-285 | 550-800-285 | 550-800-285 | 550-800-285 | 550-800-285 | 550-800-285 | 714-800-285 | 714-800-285 |
| | Weight | | kg | 27 | 27 | 28.5 | 28.5 | 34 | 34 | 40.5 | 40.5 |
| | Air Volume | Cooling | $m^3$/min | 32.2 | 32.2 | 32.2 | 32.2 | 32 | 32 | 40.5 | 40.5 |
| | | Heating | $m^3$/min | 29.8 | 29.8 | 29.8 | 29.8 | 28.1 | 28.1 | 37.4 | 37.4 |
| | Sound Level (SPL) | Cooling | dB(A) | 47 | 47 | 49 | 49 | 50 | 50 | 52 | 52 |
| | | Heating | dB(A) | 48 | 48 | 50 | 50 | 51 | 51 | 52 | 52 |
| | Sound Level (PWL) | Cooling | dB(A) | 59 | 59 | 61 | 61 | 61 | 61 | 64 | 64 |
| | Operating Current (Max) | | A | 7.3 | 7.3 | 7.3 | 7.3 | 9.6 | 9.6 | 13.5 | 13.5 |
| | Breaker Size | | A | 10 | 10 | 10 | 10 | 10 | 10 | 16 | 16 |
| Ext. Piping | Diameter | Liquid/Gas | mm | 6.35 / 9.52 | 6.35 / 9.52 | 6.35 / 9.52 | 6.35 / 9.52 | 6.35 / 9.52 | 6.35 / 9.52 | 6.35 / 9.52 | 6.35 / 9.52 |
| | Chargeless piping lengh | Out-In | m | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| | Max.Length | Out-In | m | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | Max.Height | Out-In | m | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Guaranteed Operating Range (Outdoor) | | Cooling | ℃ | -10 ~ +46 | -10 ~ +46 | -10 ~ +46 | -10 ~ +46 | -10 ~ +46 | -10 ~ +46 | -10 ~ +46 | -10 ~ +46 |
| | | Heating | ℃ | -20 ~ +24 | -20 ~ +24 | -20 ~ +24 | -20 ~ +24 | -20 ~ +24 | -20 ~ +24 | -20 ~ +24 | -20 ~ +24 |

(*1) Refrigerant leakage contributes to climate change. Refrigerant with lower global warming potential (GWP) would contribute less to global warming than a refrigerant with higher GWP, if leaked to the atmosphere. This appliance contains a refrigerant fluid with a GWP equal to 550. This means that if 1 kg of this refrigerant fluid would be leaked to the atmosphere, the impact on global warming would be 550 times higher than 1 kg of $CO_2$, over a period of 100 years. Never try to interfere with the refrigerant circuit yourself or disassemble the product yourself and always ask a professional.
The GWP of R32 is 675 in the IPCC 4th Assessment Report.
(*2) Energy consumption based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located.
(*3) SHi: Super High
(*4) SEER, SCOP and other related description are based on COMMISSION DELEGATED REGULATION (EU) No.626/2011. The temperature conditions for calculating SCOP are based on "Average Season".
(*5) Please see page 57-58 for heating (warmer season) specifications.