

Active Arc Killer [A2K Series]

In the reactive sputtering processes, the A2K Series abnormal discharge prevention unit applies positive voltage pulses to a DC power generator to neutralize the charge on the target.

This unit can be easily mounted to existing equipment, and it achieves improvements in yield ratio and throughput at low cost.



A2K-40K

Features

- ▶ **High throughput**
Makes high power input possible by reducing abnormal discharge
- ▶ **Reduces substrate damage**
Capable of reducing substrate damage caused by arcs
- ▶ **Inhibits substrate temperature**
Capable of inhibiting substrate temperature compared to RF sputtering
- ▶ **Simple connectivity**
Can be easily connected to existing equipment^{*1}
- ▶ **Variable inversion pulse frequency**
Possible range: A2KH-25/50:1kHz to 20kHz, A2K-20K/40K: 1kHz to 50kHz
- ▶ **Pulse synchronization system**
Output pulses for multiple A2K units can be synchronized^{*2, *3}
- ▶ **Capable of large capacities through master/slave connections**
Up to six A2K-20K/40K units can operate in parallel

*1: Can be connected to ULVAC DPG Series DC power supplies

*2: Pulse synchronization and parallel operation is not possible when using mixed A2KH-25, 50 and A2K-20K, 40K units

*3: The A2KH-25/50 requires an external synchronization unit (PHSM/PHSS)

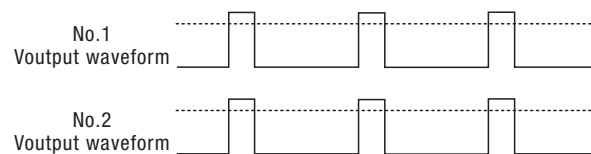
*4: The A2K-20K/40K is only capable of in-phase phase control

Applications

- ▶ Reactive sputtering equipment for FPD
- ▶ Reactive sputtering equipment for industrial coating
- ▶ Reactive sputtering equipment for color TFT

■ Application: Pulse synchronization system

When cathodes are close in the same chamber and they are opposite of each other or when there is interference in the discharge of multiple A2K units, the A2K inversion pulse can be set to in-phase or reverse phase by using the phase control function to prevent discharge interference.^{*3, *4}



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Specifications

Model		A2KH-25	A2KH-50	A2K-20K	A2K-40K
Control power input	Input	AC90 ∼ 110V		AC100 ∼ 240V	
	Frequency	Single phase 50/60Hz			
	Power	100VA	120VA	400VA	
	Leak current	1mA or less			
Input specification	operating voltage	-100 ∼ -800V			
	operating current	0 ∼ 25A	0 ∼ 50A	0 ∼ 50A	0 ∼ 100A
	Input structure	Connector connection	Terminal block or connector connection	Connector connection	
Output specification	Pulse range	5μs/10μs (Internal switch switching)		1 ∼ 18μs (There is a frequency limitation)	
	Oscillating frequency	Pulse range 5μs:2,5,10,15,20kHz Pulse range 10μs:1, 2.5, 5, 7.5 ,10kHz		1kHz ∼ 50kHz Variable in 1kHz increments	
	Inversion pulse voltage	10 - 20% of the DC power generator output voltages. (It depends on a load impedance)			
Withstand voltage	continuous operation	-1500Vdc			
Parallel operation		Nothing		Up to 6units can be controlled ^{*5}	
Cooling method		Forced air-cooling			
Dimension (WxDxH) ^{*6}		238mm×450mm×149mm	431mm×450mm×149mm	483mm×630mm×177mm	
Weight		16kg	26kg	30kg	45kg
Applicable standard		RoHS			

Ambient operating temperature 5°C ~ 40°C (no condensation)

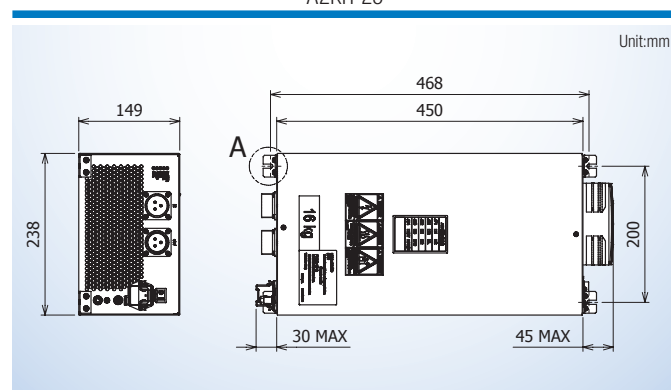
Operating environment: Avoid direct sunlight, heat, dust, vibration, and without corrosive gas.

*5: A2K-20K and A2K-40K cannot be used together.

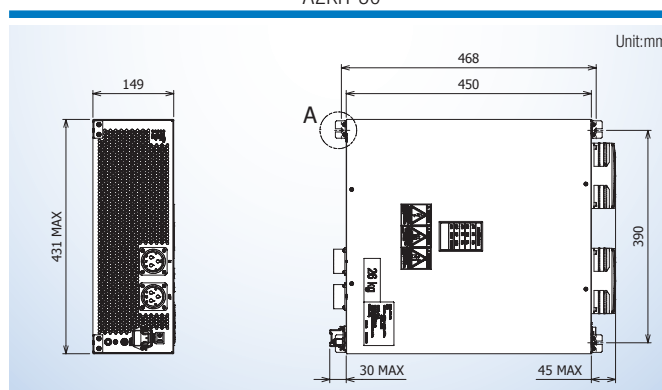
*6: Excluding protrusions

Dimensions

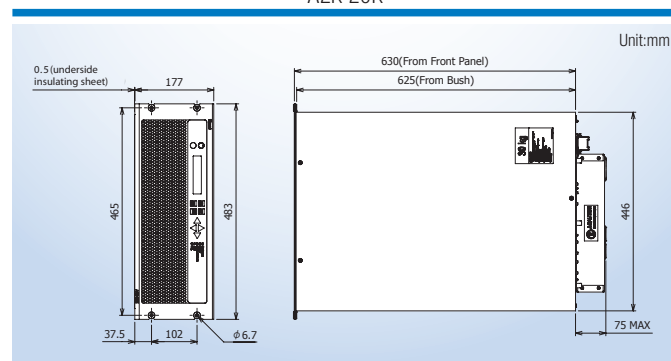
A2KH-25



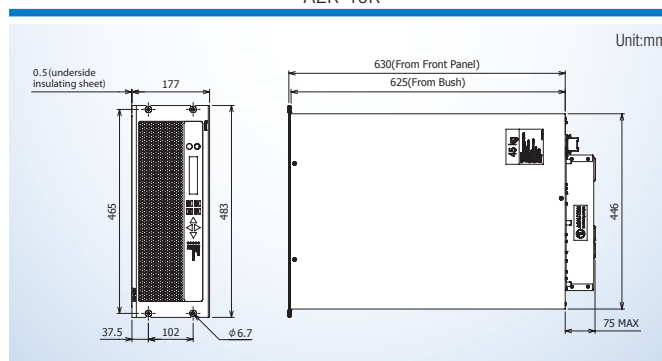
A2KH-50



A2K-20K



A2K-40K



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➤ This catalog is published in order to sell this product in overseas. Please see Japanese catalog when purchasing in Japan.

2459E/2015081500SP