

Air Sheathed Heaters

Standard, Configurable

Be sure to refer to "Precautions for Use" in the Heaters for Air Heating Overview on P.1631.

Standard

MAHU (U Type) (100V, 200V / Single-phase)

MAHM (M Type) (100V, 200V / Single-phase)

MAHS (S Type) (200V / Single-phase)

MAHU (U Type) (100V, 200V / Single-phase)

Bushings M16x1.5, Heater Element Ø12, Terminal M5, L₀-10

MAHM (M Type) (100V, 200V / Single-phase)

Terminal M5, Bushings M16x1.5, Heater Element Ø12, L₀-10

MAHS (S Type) (200V / Single-phase)

Terminal M5, Heater Element Ø12, M20x3, L±10

Material Element :SUS304, Bushing :SUS304, Gasket : Non Asbestos (only for U and M Types), Flat Washer :SUS304, Nut :SUS304

Accessory ① Bushing for S Type: Insulator (only for S type) 2 pcs., ② Nut for S Type: Insulator (only for S type) 2 pcs.

RoHS10 Maximum Operating Temperature: 160°C

U, M, S Type Heaters

Part Number	Type	No.	L	W (Electric Power)	V (Voltage)	Electrical Power Density (W/cm ²)	Unit Price
MAHU	1	200	500	100	4.0		
	2	270	1000	200	5.5		
	3	400	1500	200			
	4	510	2000	200			
MAHM	1	200	500	100	2.0		
	2	250	1000	200	3.0		
	3	280	1500	200	4.0		
	4	330	2000	200	4.5		
MAHS	1	330	500	200	3.9		
	2	420	667	200	4.1		
	3	500	833	200	4.2		
	4	590	1000	200	4.3		



Configurable

MAHUS (U Type) (100V, 200V / Single-phase)

MAHSS (S Type) (100V, 116V, 200V / Single-phase)

MAHUS

Material Element :SUS321, Bushing :SUS304(M16x1.5), Gasket : Non Asbestos, Flat Washer :SUS304, Nut :SUS304

Accessory (2 pcs. each) : Flanged Insulator, Aluminum Ring (2 pcs. each)

Welded in Argon Shield (Circumference)

RoHS10 Maximum Operating Temperature: 160°C

S Type Configurable

Part Number	Type	No.	L	W (Electric Power)	V (Voltage)	Electrical Power Density (W/cm ²)
MAHSS	12	200-1500	100	150-2250	0.75W/cm ² ±4.0	
			116	0.7W/cm ² ±3.77(L/10)		
			200			

U Type Configurable

Part Number	Type	No.	L	W (Electric Power)	V (Voltage)	Electrical Power Density (W/cm ²)	Unit Price
MAHUS	12	200-600	60-100	100-1750	0.3W/cm ² ±4.0		L200-300
			100	150-1750	0.3W/cm ² ±3.77(2L+0.57A-84)/10		L301-400
			150				L401-500
			200				L501-600
			250				L610-700
			300				L710-800
			350				L810-900
			400				L910-1000
			450				L1010-1100
			500				L1110-1200
			550				L1210-1300
			600				L1310-1400

Part Number	Type	No.	L200-300	L310-400	L410-500	L510-600	L610-700	L710-800	L810-900	L910-1000	L1010-1100	L1110-1200	L1210-1300	L1310-1400	L1410-1500
MAHSS	12														

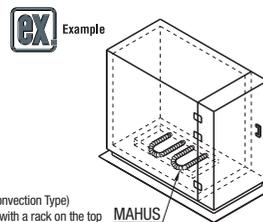
Ordering Example

Part Number - L - A - V - W

MAHUS12 - 350 - A100 - V200 - W600

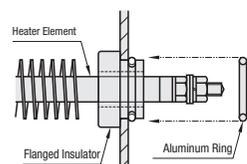
Part Number - L - V - W

MAHSS12 - 400 - V200 - W150



Mounting Method for MAHSS

- Slit has been added to aluminum rings. Please expand rings by hand.
- Use mounting plate with thickness 3mm or less.



Dryer
(Natural Convection Type)
Equipped with a rack on the top

Air Sheathed Plug Heaters, Small Hot Air Generators

Be sure to refer to "Precautions for Use" in the Heaters for Air Heating Overview on P.1631.

Air Sheathed Plug Heaters

RoHS10 Maximum Operating Temperature: 160°C

MAHP
(Air Sheathed, 200V / Three-phase)

Plug G (PF) 2, Heater Element Ø12, Cap, 75, 14, L₀-10

Material Element :SUS316L, Plug :SCS14, Cap :SCS13

Accessory Gasket : Non Asbestos

Part Number	Type	No.	L	W (Electric Power)	V (Voltage)	Electrical Power Density (W/cm ²)	Unit Price
MAHP		1	230	1000	200	2.5	
		2	400	2000			
		3	580	3000			
		4	760	4000			
		5	890	5000			

Ordering Example Part Number MAHP3

Small Hot Air Generators

MAHZA (Standard)

MAHQB (Point Tapered)

MAHQC (Flat Tip)

RoHS10 Maximum Operating Temperature: 800°C

2-Lead Wire Length=(160), 2-M4Crimp Terminal, R(PT)1/8, Case, Temperature Monitoring Hole, 102, 14, 5, 11, 0.5, 0.3, 0.5, 0.2, 1.8, 2.5, 2.6, 1.8, 0.5

Material Generator: Quartz Glass / Case: Stainless Steel

As heat generation increase, temperature monitoring holes will turn red in order of 5 to 1. The load reaches the limit when the 5th to 2nd lights turn red and the 1st light remains black. Keep the color of the 5th hole unchanged when using.

Blast Orifice, Temperature Monitoring Hole, Load Limit

Part Number	Type	No.	V (Voltage)	W (Electric Power)	Max. Flow (l/min)	Operating Gas Pressure (kgf/cm ² /MPa)	Maximum Operating Temperature	Unit Price
MAHZA	1	100	350	60	2(0.2)	800°C		
		200	440					

Ordering Example Part Number MAHZA1

Features

- MISUMI's small hot air generators employ quartz glass which excels in heat-resistance on the body and ceramic processed special elements on the heat generator. Compact, safe, and clean hot air can be obtained.

Usage

- Spot Drying after Workpiece Cleaning
- Welding of Resin Products
- Soldering of Electronic Parts such as IC chips
- Cap Seal Shrinkage (Shrink Packaging)
- Cutting (heat cutting) of Resin Film etc.
- Shrinkage of Pipe Wrapping Tubes

Usage Procedure

- Introduce compressed air before turning on small hot air generator.
- Confirm the compressed air is flowing and apply a voltage to it.
- Put the nozzle toward the object, and start heating.

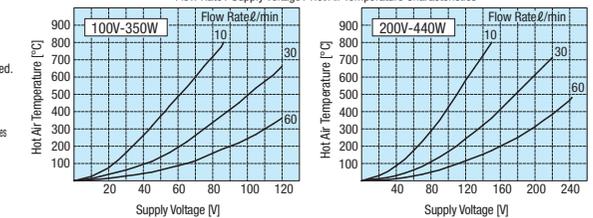
* Temperature Adjusters (P.1669) and Temperature Controllers (P.1674) cannot be used.

Calculation of Hot Air Temperature
Use the following formula to estimate hot air temperature.

$$\text{Hot Air Temperature [}^\circ\text{C]} = \frac{50 \times \text{Power Consumption [W]}}{\text{Flow Rate of Compressed Air [l/min]}}$$

Power consumption should be made smaller than W (electric power) of each type. The above formula is for reference. If hot air temperature is high while flow rate is small, heat efficiency may decrease. Hot air temperature must be set lower than 800°C.

Flow Rate / Supply Voltage / Hot Air Temperature Characteristics



Applicable / Not Applicable Gases

The list below is for reference only and not a product guarantee.

Gas	Applicable or Not	Cautions and Others
Air, Oxygen	○	Avoid large amounts of oil mist or water.
Nitrogen, Argon	○	All inert gases are applicable, but they will decrease the life span of the product.
Hydrogen	△	Igniting occurs if the gas is exposed in the air at temperature 600°C or more.
Water Vapor	△	Letting the heat generator wet will cause breakage.
Town Gas / LPG	×	After thermal decomposition, carbon adheres to a heat generator.

[IMPORTANT] Cautions

- Check the air flow supply before applying a voltage. Never use without air flow.
- After turning off the small hot air generator, please keep the compressed airflow for 3 min or more for the sake of safety. Then stop air flow supply when the temperature of the hot air is lower than 50°C.
- Quartz glass is used on the body. Do not apply an impact.
- The body and case get high temperature during the operation. Do not touch them. It will cause burn injury.
- Voltage and electric power should be set lower than the rated values.
- Do not exceed max. operating temperature (800°C).