Plate Heaters

MPHKH (Through Hole) (100V, 200V/Single-phase) RoHS 10 MPHK (Lead Wire Type) MPHK-100-20 only (100V. 200V / Single-phase) (Terminal Attached) (100V. 200V/Single-phase)

Maximum Operating Temperature: 300°C ■Plate Heaters (with Lead Wire)

Part Number Type	А	В	V (Voltage) Selection	W (Electric Power)	F (Lead Wire Length) mm		Electrical Power Density (W/cm²)	Unit Price
	50	50	100	00			(W/cm²)	
	50	50	200	80				
	60	60	100	100				
	00	00	200	100		4.5±1		
		20	100	- 80		4.0±1		
MPHK			200	- 00	1000			
WIFTIIX	100	50	100	150	1000			
	100	30	200	150				
		100		250		4.0±1		
		100	200					
	150	150	100	500				
		100	130	200	300			

Plate He	aters	(with T	hrough I	loles)
Part Number			V (Voltage)	W

	410.0			.0.00,						
Part Number Type	Α	В	V (Voltage) Selection	W (Electric Power)	F (Lead Wire Length) mm	Т	Electrical Power Density (W/cm²)	Shape	Unit Pr	ice
	100	100	100 200	250	1000	4.0±1	2.5	1		
	150	150	100 200	500			2.2	3		
MPHKH	200	50 100	100 200	200				2		
WIPHKH			100 200	400			2.0	3		
	250	50	100 200	250				4		
	300	50	100 200	350			2.3	4		
Ordering Part Number		er -	Α -	В	- V	<u> </u>	w]		

Plate Heaters	(Terminal Attached)				
Part Number		V (Voltage)	w		

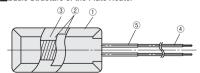
	t Number Type	Α	В	V (Voltage) Selection	W (Electric Power)	Т	Electrical Power Density (W/cm²)	Shape	Unit Price
	DUIZT	250		100 200	200	4.0±1	1.6	(5)	
MPI	PHKI	300	50	100	300		2.0		
IVIF	MPHKT	300	30	100 200	300		4.0±1	2.0	9

2-M4 Safety Insulator Attached Terminals

Features of the Plate Heater

This plate type heater uses heat-resistant metal plate (SUS430) which covers a resistance ribbon wire which is insulated with mica.

■Basic Structure of the Plate Heater



No.	Name	Material			
1	Cover of the Heater	SUS430			
2	Mica for Insulation	Synthetic Mica			
3	Nickel-chrome Wire	Nickel Chrome Ribbon Wire			
4	Lead Wire	Nickel Copper Glass Fiber Coated Wire			
(5)	Tube	Glass Fiber			

Precautions for Use

Never operate the heater when it is empty. Doing so may result in damage to the unit.

• Apply electric power under the condition in which an object such as metal to be heated is attached to the heater.

Attach the object so that the heater comes into close contact with the surface to be heated.

Leaving a gap will cause the wire to break earlier than its service life.

Make sure that the lead wire is not touching the metal plates when the heater is sandwiched between them.

The heater is not waterproof.

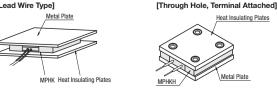
Never expose the heater to water or any other liquids.

Oo not use over the rated voltage (V).

*Use the temperature controller for safety

How to Mount

[Lead Wire Type]

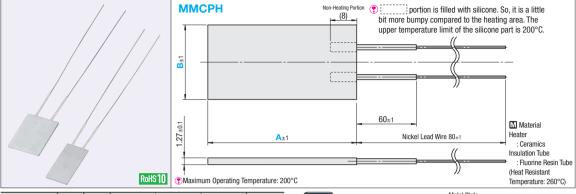


Heat Insulating Plates Metal Plate

⇒ Fix the heater with screws. ⇒ Sandwich it with metal plate and insulation plate.

Small-Size Ceramic Plate Heaters

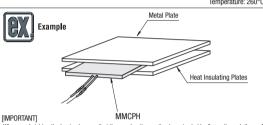
Temperature Controllers (P.1674) and Temperature Adjusters (P.1669) cannot be used. ► See "How to Use" below.



Part Number Type	Α	В	V (Voltage)	W (Electric Power)	Maximum Operating Temperature (°C)	Unit Price
	15	10	15~45	6~21		
ММСРН	15	15	10~40	5~19	200	
MINICPH	20	10	15~80	4~26		
	20	15	10~60	3~25		

The heaters can be used within the range of the above operating voltage (V) and operating electric power (W), but please note that rapid application or temperature rise could cause damage to the heaters. • Do not use the heater at a temperature exceeding the maximum operating temperature.





When sandwiching the heater, be sure that the non-heating portion is protruded by 8 mm through the surface.

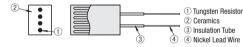
Features of the Small-Size Ceramic Heater

MISLIMI's small-size ceramic plate heaters are made of ceramic which has excellent heat resistance and insulation characteristics. The heater is made of a ceramic sheet incorporating tungsten resistors.

- · This small, thin plate-shaped heater can be operated in a small space.
- · As the ceramic plate heater is plate-shaped, it can provide uniform heating.
- The speed at which the heater temperature changes is quite fast.
- · Available for both direct current and alternate current.

■Basic Structure

The ceramic plate heater is composed of highly heat-resistant tungsten resistors attached to a ceramic sheet



Selecting Method

Calculate the amount of heat (W) required to heat the object. Refer to "Selecting Method ① Determine the calories (W) required for the heater"

②Select the size of heater depending on the required amount of heat (W) and the size of the object, and determine the operating voltage (V) using the Table of Temperature Characteristics as a reference.

■How to Use

- Maintain the operating voltage of the selected heater by using the following method.
- ①Operate the heater at a constant voltage by using a step-down transformer. ②Control the temperature by using a variable voltage transformer.
- 3 Conduct precise temperature control by using a phase controller

Measurement Conditions (Environmental temperature of measurement: 16°C in natural atmosphere) Surface temperature should be measured at the center of the heater. Heater One side of the ceramic fiber should be insulated from heat. * one sue or one caramic note stroot de insolated from near.

The Aron Ceramic Adhesive is used to bond the small-size ceramic plate heaters onto the ceramic fiber (30x30x110).

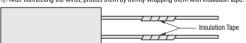
* Please note that the temperature-rise characteristic differs significa

Connection Method

Attach the lead wire to the two terminals and firmly connect them by soldering, etc.



2) After connecting the wires, protect them by tfirmly wrapping them with insulation tape



■How to Mount

Use the heater in a position sandwiched between the metal block to be heated and the insulation board.

The clearance between the block and the insulation board should be as small as possible.

* The degree of contact between the heater and the object to be heated will affect the life of the heater. A large clearance will delay the temperature rise time and create a delayed response to temperature adjustments

Precautions for Use

Do not use the heater at a temperature exceeding the maximum operating temperature of 200°C.

Never operate the heater when it is empty. Doing so may result in damage to the unit.

Apply electric power under the condition in which an object such as metal to be heated is attached to the heater. Attach the object so that the heater comes into close contact with the surface to be heated.

Make sure that the lead wire is not touching the metal plates when the heater is sandwiched between them.

Do not forcibly insert the heater between the metal plates. Doing so will cause the heater to crack.

The heater is not waterproof. Never expose the heater to water or any other liquids.

TUse the temperature-rise data as a reference and do not heat too rapidly. Doing so will definitely result in breakage of wire.

Do not exceed the operating voltage (V) shown below. Doing so will cause breakage of the wire in the heater.

not bend fluorine resin tubes.

