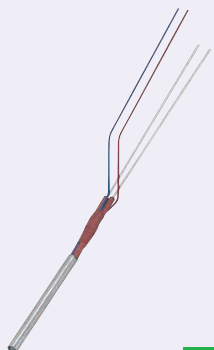


# Cartridge Heaters

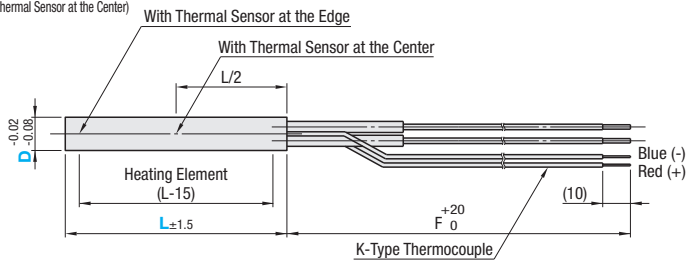
## With Sensor

Be sure to refer to "Precautions for Use" in the Cartridge Heater Overview on P.1605.



**MCHSSS** (With Thermal Sensor at the Edge)  
**MCHSSC** (With Thermal Sensor at the Center)

With Thermal Sensor at the Edge  
 With Thermal Sensor at the Center



Blue (-)  
Red (+)

K-Type Thermocouple

Material Heater: SUS321  
 Terminal: Copper  
 Lead Wire: Nickel (Ni)  
 Lead Wire Film: Glass Braid  
 Lead Wire Heat Resistance Temperature: 180°C

K-Type Thermocouple Film: Glass Braid  
 Thermocouple Heat Resistant Temperature: 180°C  
 Temperature Measurement Range: 0 ~ 600°C

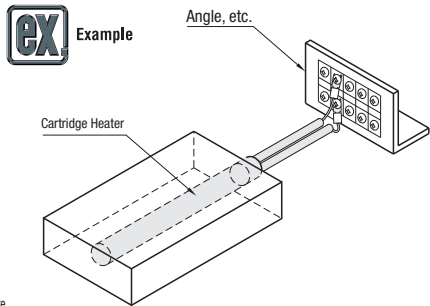
Maximum Operating Temperature: 600°C  
 Maximum Operating Temperature means value at the sheath part. Please pay attention to Metal Wire Heat Resistance Temperature and be sure to put the lead wire out of the mounting hole.

**RoHS10**

### Configurable L and W with Sensor

Part Number Type	D	L 1mm Increment	V (Voltage) Selection	W (Electric Power) 10W Increment	F (Lead Wire Length)	Electrical Power Density (W/cm <sup>2</sup> )	Unit Price		
							L50~100	L101~200	L201~300
<b>MCHSSS</b> (With Thermal Sensor at the Edge)	8	50~300	100	50~ 600	250	2 ≤ W/cm <sup>2</sup> ≤ 15 W/cm <sup>2</sup> = W/(π(L-15)/100) Calculate with the electrical power density of heat-generating part, not with the overall length.			
			110	50~ 600					
			200	70~1000					
			220	90~1000					
<b>MCHSSC</b> (With Thermal Sensor at the Center)	10		100	50~ 600					
			110	50~ 600					
			200	110~1200					
			220	130~1200					
	12	100	50~ 800						
		110	50~ 800						
		200	140~1500						
		220	160~1500						

Ordering Example: **Part Number** - **L** - **V** - **W**  
**MCHSSC10** - **170** - **V200** - **W450**



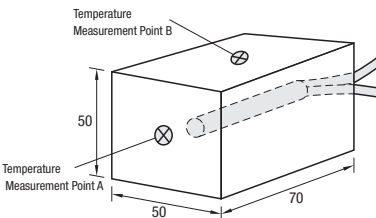
### Features

- This unit contains the Cartridge Heater with built-in K Type Thermocouple.
- As the temperature sensor is integrated into the heater, the heater can be used in smaller space.
- The heater has a function to prevent the temperature rise of the heater itself and to perform accurate temperature control.

### Precautions for Use

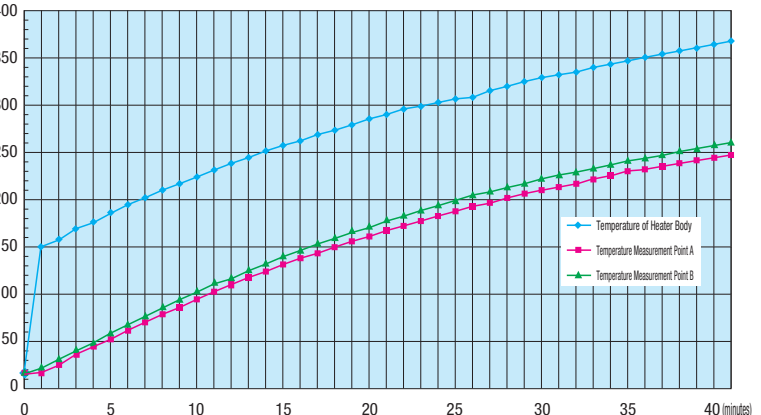
- Do not let the heaters run idle in the atmosphere. If the heater is used with some or the whole of the heating element projected from the heated objects, the wire may break or ignite due to abnormal heating.
- The temperature measured by the Thermocouple is the temperature of the Heater.
- To measure the temperature of the heated object, separate sensor needs to be installed.

### Measurement Data of Temperature Rise of Cartridge Heater with Sensor (°C)



Used Heater : MCHSS8-60-V100-W130  
 (Electrical Power Density: 10W/cm<sup>2</sup>)  
 Heated Object : SS400(50x50x70)  
 Point of Temperature Measurement : Center part of each surface of block

### Measurement Data of Temperature Rise of Cartridge Heater with Sensor



\* The data above shows the difference of temperature between the heater body and the heated object.