

# Rubber Heaters / Adhesives for Rubber Heater

Round

**MRHCS Standard**

**MRHCH Standard**  
**MHRHH High Temperature**

⊖ Maximum Operating Temperature Standard: 220°C  
High Temperature: 250°C

**Standard**  
Material : Heater : Silicon Rubber  
Lead Wire: Nickel (Ni)  
Lead Wire Film: Teflon

**High Temperature**  
Material : Heater : Heat Resistant Silicon Rubber  
Lead Wire: Nickel (Ni)  
Lead Wire Film: Teflon

## Round Rubber Heater

Part Number Type	D 1 mm Increment	V (Voltage)	W (Electrical Power) 10 W Increment	F (Lead Wire Length) 10 mm Increment	Electrical Power Density (W/cm <sup>2</sup> )
MRHCS Standard	60-100	100 200	10-60	100-1000	0.2 ≤ W/cm <sup>2</sup> ≤ 0.8 ⊖ W/cm <sup>2</sup> = W / [π{(D/2) <sup>2</sup> /100}]
	101-150		10-130		
	151-200		50-240		
	201-300		50-500		
	301-400		50-700		
401-500	50-800				

## Round Rubber Heater with Hole

Part Number Type	D 1 mm Increment	E 1 mm Increment	V (Voltage)	W (Electrical Power) 10 W Increment	F (Lead Wire Length) 10 mm Increment	Electrical Power Density (W/cm <sup>2</sup> )
MRHCH Standard	70-100	3-440 ⊖ E ≤ D-60	100 200	10-60	100-1000	0.2 ≤ W/cm <sup>2</sup> ≤ 0.8 ⊖ W/cm <sup>2</sup> = W / [π{(D/2) <sup>2</sup> /100} - π{(E/2) <sup>2</sup> /100}]
	101-150			10-130		
MHRHH High Temperature	151-200			50-240		
	201-300			50-500		
	301-400			50-700		
401-500	50-800					

**Part Number Example**

Part Number - D - E - V - W - F

MRHCS - 180 - - V200 - W80 - F1000

MRHCH - 100 - E30 - V100 - W20 - F600

**Part Number Alterations**

Part Number - D - V - W - F - (TPG)

MRHCS - 180 - V200 - W80 - F1000 - TPG2

Alteration	Code	Spec.	No.
With Double-Sided Tapes	TPG	Affix double-sided tape to the rear surface of the rubber heater.	1
		⊖ Shipping with tape affixed. Tape Thickness 0.3 mm.	2
		⊖ Maximum operating temperature for rubber heaters with tapes is 150°C.	3

⊖ Please refer to "Precautions for Use" in the Rubber Heaters Guide on P.3726.

**Adhesives for Rubber Heater**

RoHS10

Part Number	Volume (ml)	Features	Color	Usage	Operating Temp. Range	How to Use
MRHSB	330	Suitable for bonding rubber with metal plates under the high temperature (180°C). Also suitable for metals with rough surfaces and curved surfaces.	Transparent	Adhesion of Silicon Rubber	-40°C-180°C	Apply it on the adhered surface of rubber heater uniformly. After the adhesive sets a little (approx. 10-15 minutes in summer, 35-40 minutes in winter), stick it on the fixing surface (metal block, etc.), purge air from the rubber surface, and weigh upon it uniformly. Leave it alone for one day after the affixing, then apply electrical power.

⊖ Thermal Conductivity: 0.21 [5x10<sup>-4</sup>] W/m - K (cal/cm - sec - °C)

**Part Number Example**

Part Number

MRHSB

# Rubber Heaters

Square with Thermostat

**MRHSSB**

⊖ Maximum Operating Temperature: 220°C

⊖ A ≥ B

**Material :**  
Heater : Silicon Rubber  
Lead Wire: Nickel (Ni)  
Lead Wire Film: Teflon

**Thermostats**  
Heater: Ceramic (Steatite Type)  
Cap: Aluminum  
Bimetal: Disk Bimetal

## Thermostat Operating Temp. Rating

S Thermostats Operating Temp. (°C)	ON Point	OFF Point
80	(65±5)°C	(80±4)°C
120	(100±8)°C	(120±6)°C
150	(125±15)°C	(150±7)°C
180	(160±15)°C	(180±8)°C

It energizes (NC) when the power is turned on and the contact point shuts off when it reaches to the operation temperature rate (OFF) and electricity is turned off. It automatically recovers when it is below the rated operating temperature.

(Ex.) When at thermostat operation temperature (°C) 80, contact point shuts off at (80±4)°C after electricity is supplied. It will automatically recover when it becomes (65±5)°C. In temperature adjustment, set it lower than the temperature of OFF point tolerance

(In case of 80°C: 80-4=76°C or less).

## Rubber Heater - Square with Thermostat

Part Number Type	1mm Increment A	1mm Increment B	V (Voltage)	W (Electrical Power) 10W Increment	S (Thermostat Operating Temperature) (°C)	Electrical Power Density (W/cm <sup>2</sup> )
MRHSSB	120-500	80-400	100 200	10-1000	80 120 150 180	0.2 ≤ W/cm <sup>2</sup> ≤ 0.8 ⊖ W/cm <sup>2</sup> = W / (AB/100)

**Part Number Example**

Part Number - A - B - V - W - S

MRHSSB - 200 - 200 - V200 - W80 - S120

A	Available Types						
	B80-100	B101-150	B151-200	B201-250	B251-300	B301-350	B351-400
120-150	•	•	—	—	—	—	—
151-200	•	•	•	—	—	—	—
201-250	•	•	•	•	—	—	—
251-300	•	•	•	•	•	—	—
301-350	•	•	•	•	•	•	—
351-400	•	•	•	•	•	•	•
401-450	•	•	•	•	•	•	•
451-500	•	•	•	•	•	•	•

## Features

The bimetal thermostat with automatic recovery system prevents overheating of rubber heaters.

### Features of Thermostats

Principle of Operation: Bimetal non-energizing type single pole single throw operating temperature one point fixed type

Operating Method: OFF when temperature rises, and ON when temperature drops

**Electric Rating:** Resistance Load AC125V / 15AAC250V / 7.5A (Minimum Current: 0.1 A)

**Contact Resistance:** 50 mΩ or less according to minute current ohmmeter (DC6V/0.1 A) (initial value)

**Insulation Resistance:** 10 MΩ or more with DC500V mega in the charge part and non-charge part

**Insulation Resistance:** AC1500 V/min or AC1800 V/sec in the charge part and non-charge part (leakage current: 10 mA)

**ON/OFF Life Span:** The thermal ON / OFF operation is done approximately 10,000 times or less at the load of rated current and voltage.

**Insulation Resistance:** 50M; Contact resistance: 100 m or less

## Mounting Method

Apply Rubber Heater (left-hand page) and attach to the heated object.

## Precautions for Use

- ⊖ A thermostat should not be used for temperature adjustment. Please use it as overheat protector.
- ⊖ Do not apply force to thermostat.
- ⊖ There are temperature gaps (about 10-40°C) between thermostat operating temperature and heater surface temperature, and between thermostat and heated object. Please check before actual use.
- ⊖ A part of upper terminal of thermostat is exposed. Please pay attention to short circuit.
- ⊖ Do not use it in inflammable atmospheres.
- ⊖ To avoid burn injury, do not touch the heater when the power supply is on or immediately after the use.