


# Rubber Heaters / Adhesives for Rubber Heater

## Square Both Side Flat Type

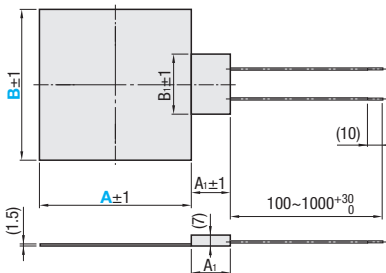
Be sure to refer to "Precautions for Use" in the Rubber Heaters Overview on P.1511.

**■ Square Both Side Flat Type**



**MRHSF**

Maximum Operating Temperature: 200°C  
A≥B



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

Part Number Type	5mm Increment		V (Voltage)	W (Electric Power) 10W Increment	F (Lead Wire Length) 10mm Increment	Lead Wire Retaining Sheet Dimension		Electrical Power Density (W/cm <sup>2</sup> )
	A	B				A1	B1	
MRHSF	50~500	25~50	100 200	10~1600	100~1000	25	25	0.2≤W/cm <sup>2</sup> ≤0.8 W/cm <sup>2</sup> =W/(AB/100)
		55~100				25	40	
		105~200				40	40	
		205~350				60	100	
		355~400				80	120	

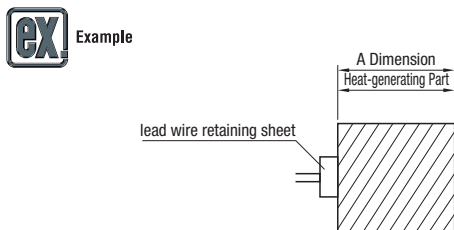
Ordering Example: Part Number - A - B - V - W - F  
MRHSF - 200 - 200 - V200 - W210 - F1000

**■ Feature**  
As the lead wire retaining sheets are away from heat-generating part, it is easy to sandwich the heater.  
Closer contact with workpiece allows for higher heat efficiency than the conventional products.  
Only have to specify heating portion.

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A	Unit Price							
	B25-50	B55-100	B105-150	B155-200	B205-250	B255-300	B305-350	B355-400
50-100								
105-150								
155-200								
205-250								
255-300								
305-350								
355-400								
405-450								
455-500								



As the lead wire retaining sheets are away from the heat-generating part, only have to specify heat-generating part.

Easy-to-use sandwich construction. Has higher heat efficiency than the conventional products such as MRHSS.

Part Number	Volume (ml)	Features	Color	Usage	Operating Temp. Range	How to Use	Unit Price Qty. 1-10
MRHSB	330	Suitable for bonding rubber with metal plates under 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 press on it uniformly. Leave it alone for one day after the affixing, then apply electric power.	

Thermal Conductivity: 0.21 {5x10<sup>-4</sup>} W/m, K {cal/cm, sec, °C} For orders larger than indicated quantity, please request a quotation.

Ordering Example: Part Number MRHSB

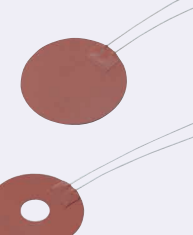
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# Rubber Heaters

## Round / Square (with Thermostat)

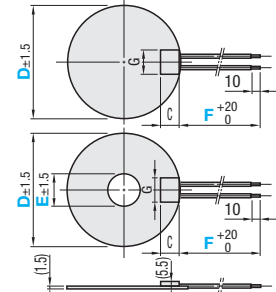
Be sure to refer to "Precautions for Use" in the Rubber Heaters Overview on P.1511.

**■ Rubber Heaters (Round)**



**MRHCS** (Standard)  
**MRHCH** (Standard)  
**MHRHH** (High Temperature)

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



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

**■ Lead Wire Retaining Sheet Dimensions**

Type	Current Value A	C	G
MRHCS	Less than 5A	(25)	(40)
MRHCH	5A to less than 8A	(40)	(40)
MHRHH	8A	(40)	(80)

Dimensions in ( ) are reference values.

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

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

Part Number Type	D 1mm Increment	V (Voltage)	W (Electric Power) 10W Increment	F (Lead Wire Length) 10mm Increment	Electrical Power Density (W/cm <sup>2</sup> )	Unit Price
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					

Part Number Type	D 1mm Increment	E 1mm Increment	V (Voltage)	W (Electric Power) 10W Increment	F (Lead Wire Length) 10mm Increment	Electrical Power Density (W/cm <sup>2</sup> )	Unit Price	
							MRHCH	MHRHH
MRHCH (Standard) MHRHH (High Temperature)	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				
	151-200			50-240				
	201-300			50-500				
	301-400			50-700				
401-500	50-800							

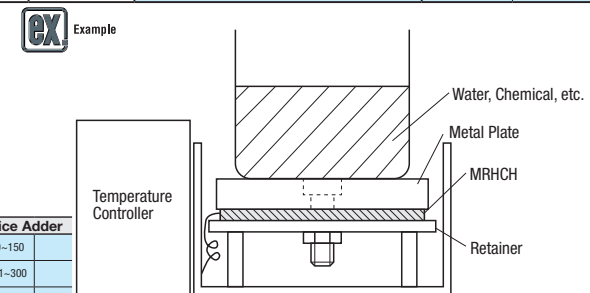
Ordering Example: Part Number - D - E - V - W - F  
MRHCS - 180 - - V200 - W80 - F1000  
MRHCH - 100 - E30 - V100 - W20 - F600

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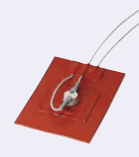
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Alterations: Part Number - D - V - W - F - (TPG)  
MRHCS - 180 - V200 - W80 - F1000 - TPG2

Alteration	Code	Spec.	No.	Price Adder
With Double-sided Tape	TPG	Affix double-sided tape to the rear surface of the rubber heater. Shipped with tape affixed. Tape Thickness: 0.2mm. Maximum operating temperature for rubber heaters with tapes is 150°C. When ordering TPG1 for MRHCH and MHRHH, D will be 70 to 150.	1	D60-150
			2	D151-300
			3	D301-500

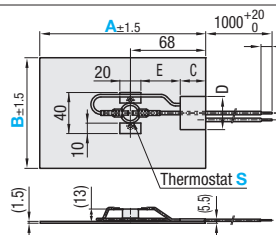


**■ Rubber Heaters (Square)**



**MRHSSB**

Maximum Operating Temperature: 220°C  
A≥B



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

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

**■ Lead Wire Retaining Sheet Dimensions**

Type	Current Value A	C	D	E
MRHSSB	Less than 5A	(25)	(40)	(33)
	5A to less than 8A	(40)	(40)	(18)
	8A-10A	(40)	(100)	(18)

Dimensions in ( ) are reference values.

**■ Thermostat Operating Temperature Rating**

Thermostats Operating Temperature (°C)	OFF Point	ON Point
80	(80±5)°C	(65±8)°C
120	(120±6)°C	(100±10)°C
150	(150±6)°C	(125±15)°C
180	(180±8)°C	(140±15)°C

It energizes (ON) 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±5)°C after electricity is supplied. It will automatically recover when it becomes (65±8)°C. In temperature adjustment, set it lower than the temperature of OFF point tolerance (in case of 80°C: 80-5=75°C or less).

Part Number Type	1mm Increment A	B	V (Voltage)	W (Electric Power) 10W Increment	S (Thermostat Operating Temperature) (°C)	Electrical Power Density (W/cm <sup>2</sup> )	Unit Price				
								A	B	C	D
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)					

Ordering Example: Part Number - A - B - V - W - S  
MRHSSB - 200 - 200 - V200 - W80 - S120

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**■ Feature**  
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/10A AC250V/5.0A (Minimum Current: 0.1A) (Contact Resistance)  
50mΩ or less according to minute current ohmmeter (DC6V/0.1A) (Initial Value) (Insulation Resistance)  
10MΩ or more with DC500V mega in the charge part and non-charge part (Insulation Resistance)  
AC1500V/min or AC1800V/sec in the charge part and non-charge part (Leakage Current: 10mA) (ON/OFF life span)  
The thermal ON/OFF operation is done approx. 10,000 times or less at the load of rated current and voltage.  
Insulation Resistance: 50MΩ; Contact resistance: 100mΩ or less

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A	Unit Price						
	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							

**■ How to Mount**  
Apply Rubber Heater (left-hand page) and attach to the heated object. P.1513

**■ Precautions for Use**  
The 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 flammable atmospheres.  
To avoid burn injury, do not touch the heater when the power supply is on or immediately after use.