

# Cartridge Heaters

## Flanged / Flanged, Lead Wire Selectable

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

**Flanged**

**MCFH**

When D=9.42 or 12.6, the O.D. tolerance will be +0.05 ~ 0.  
 For D6 and D8, the position of the terminal (22) is (17) and (37) with shifting two terminals.  
 Insulator is not attached for D=6.  
 Maximum Operating Temperature: 600°C  
 Maximum Operating Temperature means value at the sheath part. Please pay attention to Lead Wire Heat Resistance Temperature and be sure to put the lead wire out of the mounting hole.

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

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	L301-400	L401-500	L501-600		
MCFH	6	3/8 inch	50-250	100	50-500	1000	2 ≤ W/cm <sup>2</sup> ≤ 15 W/cm <sup>2</sup> = W/(Dπ(L-15)/100) Calculate with the electrical power density of heat-generating part, not with the overall length.								
				110	50-500										
				200	60-600										
				220	60-600										
				100	50-600										
				110	50-600										
	8	50-400	200	50-1200											
			220	70-1200											
			100	50-600											
			110	50-600											
			200	50-1200											
			220	70-1200											
	9.42 (3/8 inch)	50-400	100	50-600											
			110	50-600											
			200	50-1200											
			220	70-1200											
			100	50-600											
			110	50-600											
	10	50-600	200	50-1200											
			220	70-1200											
			100	50-800											
			110	50-800											
			200	50-1600											
			220	70-1600											
12.6 (1/2 inch)	50-600	100	50-800												
		110	50-800												
		200	50-1600												
		220	70-1600												
		100	50-800												
		110	50-800												
14	50-600	200	50-1600												
		220	70-1600												

- Features**
- Cartridge heater with a flange mounted on the end section. The heater can be easily secured with M4 bolts.
  - Prevent the Cartridge Heater from falling off from the device.
- 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.

**Cartridge Heaters - Flanged, Lead Wire Selectable**

**MCFHA** (Flange Shape A)

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

Material Heater : SUS304  
 Lead Wire : See Below  
 Terminal : Copper (Tin Plating)  
 Flange : Stainless Steel

**Cartridge Heaters - Flanged, Lead Wire Selectable**

Part Number	Type	D	L 1mm Increment	V (Voltage) Selection	W (Electric Power) 10W Increment	F (Lead Wire Length)		Terminal	Electrical Power Density (W/cm <sup>2</sup> )		
						Lead Wire Type	10mm Increment				
MCFHA	8	50-400	100	50-600	100-1000	N M Y	2 ≤ W/cm <sup>2</sup> ≤ 15 W/cm <sup>2</sup> = W/(Dπ(L-8.5)/100) Calculate with the electrical power density of heat-generating part, not with the overall length.	B			
			200	50-1200				G			
			100	50-600				T			
			200	50-1200				M			
			100	50-800							
			200	50-1600							
	10	50-600	100	50-600							
			110	50-600							
			200	50-1200							
			220	70-1200							
			100	50-800							
			200	50-1600							
12	50-600	100	50-800								
		200	50-1600								

**Type of Lead Wire**

Symbol	Type of Lead Wire	Heat Resistance Temperature	Features
B	Tin Plated Annealed Copper Fiber Glass Braided Wire	180°C	General Use
G	Silicon Rubber + Tin Plated Annealed Copper Wire	180°C	For chemical and water resistant items
T	Teflon + Nickel Plated Annealed Copper Wire	260°C	For chemical, water and weather resistant items
M	Mica Polyimide-Wound Silica + Nickel Coated Copper Wire	400°C	For heat resistant items

**Type of Terminal**

Symbol	Type of Terminal	Nominal Screw
N	No Crimp Terminal	
M	Crimp Terminal - Round	M4
Y	Crimp Terminal - Y-Shaped	M4

D	Heater Body Price						Additional Lead Wire Price (Body Price +)				Additional Terminal Price (Body Price +)			
	L50-100	L101-200	L201-300	L301-400	L401-500	L501-600	B	G	T	M	N	M	Y	
8														
10														
12														

**Ordering Example**

Part Number - L - V - W - F Lead Wire - Terminal

MCFHA12 - 300 - V100 - W350 - M 1000 - Y

- 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.
  - Keep the temperature around the flange at 180°C or less.
  - Keep the temperature around the lead wire exit at 130°C or less.

# Cartridge Heaters

## Flex-Resistant

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

**Flex-Resistant**

**MCHKD**

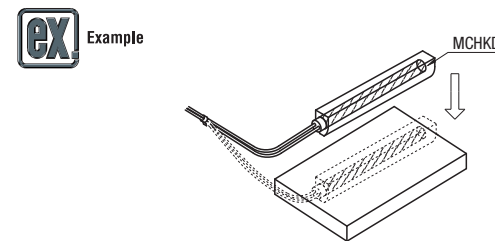
Maximum Operating Temperature: 400°C  
 Maximum Operating Temperature means value at the sheath part. Please pay attention to Lead Wire Heat Resistance Temperature and be sure to put the lead wire out of the mounting hole.

Material Heater : SUS321  
 Lead Wire : Nickel (Ni)  
 Lead Wire Film : Silicon Rubber + Glass Braid  
 Lead Wire Heat Resistance Temperature: 220°C

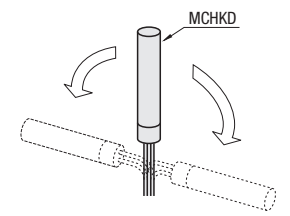
**Flex-Resistant**

Part Number	Type	D	L	V (Voltage)	W (Electric Power)	Electrical Power Density (W/cm <sup>2</sup> )	Unit Price		
MCHKD	8	60	60	100	100	8.8			
				120	10.6				
				100	8.8				
				120	10.6				
				200	9.2				
				150	9.4				
			10	60	60	100		120	8.5
						150		10.6	
						200		7.3	
						100		8.8	
						180		7.5	
						200		9.4	
	12	60	60		100	300	10.6		
					150	5.9			
					100	8.9			
					150	5.9			
					200	8.9			
					100	10.2			
	10		80	80	100	150	9.4		
					200	9.4			
					100	5.9			
					300	9.8			
					200	5.9			
					500	9.8			
12		80	80	100	300	5.9			
				200	5.9				
				100	9.4				
				300	9.4				
				200	5.9				
				500	9.8				

- Features**
- Employs a connection between the heating element and lead wire in the sheath.
  - As the nickel pins are in the sheath, the heater is more resistant against moving and bending than the conventional heaters such as MCHK.
  - 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.
  - Keep the temperature around the lead wire exit at 220°C or less.
  - Do not pull or bend it forcibly.
- Ordering Example** Part Number - L - V - W  
 MCHKD8 - 60 - V100 - W100



- More suitable for moving applications than the conventional heaters such as MCHK.
- Do not pull it forcibly.



- More resistant against bending and less prone to breakage than the conventional heaters such as MCHK.
- Avoid repeatedly and forcibly pulling on it although it is resistant against bending.