

Cartridge Heaters

L-Shaped, Knurled and Flanged

Cartridge Heaters – L-Shaped, Knurled and Flanged

MCZLRA Flange Shape A Break Resistant, Internal Connection

Material :
 Heater: 304 Stainless Steel
 Knurling : 304 Stainless Steel
 Lead Wire: See Below
 Terminal: Copper (Tin Plating)
 Flange: Stainless Steel

Terminal Selection

- N No Crimp Terminal
- M With Round Crimp Terminal
- Y With Y-Shaped Crimp Terminal

① Maximum Operating Temperature: 600° C
 ② 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.

L-Shaped, Knurled and Flanged

Part Number Type	D	L 1 mm Increment	V (Voltage)	W (Electrical Power) 10 W Increment	F (Lead Wire Length)		Terminal	Electrical Power Density (W/cm ²)
					Lead Wire Type	10 mm Increment		
MCZLRA	8	50-400	100	50-600	B G T M	100-1000	N M Y	$2 \leq W/cm^2 \leq 15$ ① $W/cm^2 = W/(D \times (L-7)/100)$ Calculate with the electrical power density of heat-generating part, not with the overall length.
			200	50-1200				
	10	50-600	100	50-600				
			200	50-1200				
	12	50-600	100	50-800				
			200	50-1600				

① MCZLRA is not available from L401-L600 for D8.

Lead Wire Type

Symbols	Selection	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 Annealing 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

Symbols	Type of Terminal	Nominal Size of Screw
N	No Crimp Terminal	—
M	Crimp Terminal – Round Type	M4
Y	Crimp Terminal – Y-Shaped	M4

Part Number Example

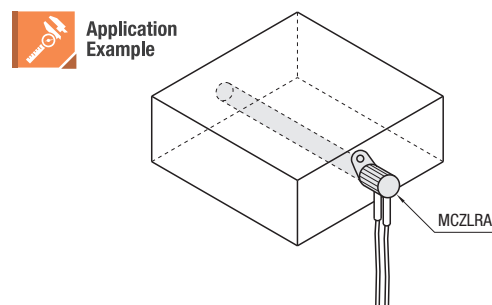
MCZLRA12 - 300 - V100 - W350 - M 1000 - Y

Precautions for Use

- ① Do not let heater run exposed in the atmosphere. Operating the heater when heat-generating part is out of heated products, the wire may break or ignite due to abnormal heating.
- ② Keep the temperature around the knurled head at 180°C or below.
- ③ Keep the temperature around the lead wire exit at 130°C or less.

Cartridge Heaters Features of L-shaped Knurled Flanged

- Space-Saving:** Saves space by bending the lead wire in L-shape at the exit point.
- Lead Wire Selection:** Lead wire can be selected depending on the operating ambient temperature.
 - The flange at the end of the heater makes it easier to mount.



Cartridge Heaters

Heat Generating with Configurable Length

Cartridge Heaters – Heat Generating with Configurable Length

MCHP

Material:
 Heater: 304 Stainless Steel
 Lead Wire: See below
 Terminal: Copper (Tin Plating)
 Maximum Operating Temperature: 600°C

① n=L-H-N±5

Terminal Selection

- N No Crimp Terminal
- M With Round Crimp Terminal
- Y With Y-Shaped Crimp Terminal

Heat Generating with Configurable Length

Part Number Type	D	L 1 mm Increment	H 1 mm Increment	N 1 mm Increment	V (Voltage) Selection	W (Electrical Power) 10 W Increment	F (Lead Wire Length)		Terminal Selection	Electrical Power Density (W/cm ²)
							Lead Wire Type	10 mm Increment		
MCHP	6	50-250	5-205	40-240	100	50-500	B G T M	100-1000	N M Y	$2 \leq W/cm^2 \leq 15$ ① $W/cm^2 = W/(D \times N/100)$ Calculate with the electrical power density of heat-generating part, not with the overall length.
					200	100-600				
	8	50-400	5-355	40-390	100	50-600				
					200	50-1200				
	10	50-600	5-555	40-590	100	50-600				
					200	50-1200				
	12	50-600	5-555	40-590	100	50-800				
					200	50-1600				
	14	50-600	5-555	40-590	100	50-800				
					200	100-1600				

① MCHP not available from L301-L600 for D6, and from L401-L600 fro D8.

② L±H+N±5

Lead Wire Type

Symbols	Selection	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 Annealing 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

Symbols	Type of Terminal	Nominal Size of Screw
N	No Crimp Terminal	—
M	Crimp Terminal – Round Type	M4
Y	Crimp Terminal – Y-Shaped	M4

Part Number Example

MCHP12 - 300 - H5 - N100 - V100 - W350 - M 1000 - Y

Precautions for Use

- ① Do not let heater run exposed in the atmosphere. Operating the heater when heat-generating part is out of heated products, the wire may break or ignite due to abnormal heating. (Completely hide heat-generating part of a heater in a metal block with 5 mm gap on both ends, ensuring that the heat generating part is not exposed to air.)
- ② Keep the temperature around the lead wire exit at 130°C or less.

Application Example

