

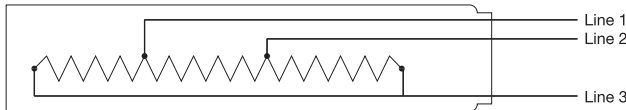
### Cartridge Heater Options — Internal Power Variations



**Type DW Distributed Wattage**

**Available on HDC and HDM cartridge heaters**

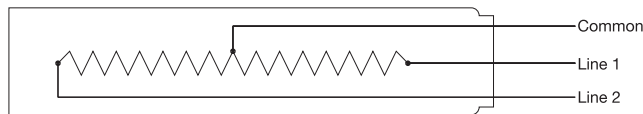
Cartridge heaters can be designed to vary the wattage along the length of the heater. Specify number of zones and the required watts and length per zone starting from the disk end. Leads can be connected externally or internally. Picture shows a heater with Type N externally connected leads. Heaters with other terminations may require a longer cold section at the lead end.



**Type 3PH Three Phase**

**Available on HDC, HDM, and LDC cartridge heaters  
1/2" diameter and larger (See page 2-4)**

In order to minimize the gauge of the wiring on high wattage cartridge heaters, 3-phase elements can be designed.



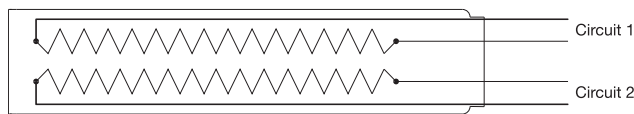
**Type DV Dual Voltage**

**Available on HDC, HDM, and LDC cartridge heaters  
3/8" diameter and larger (See page 2-4)**

3/8" and 1/2" diameter heaters may require a larger diameter transition area at lead end.

Cartridge heaters can be designed using 3-wire series/parallel circuits for dual voltage applications. Whether the heater is run on the high or low voltage, the wattage will be the same.

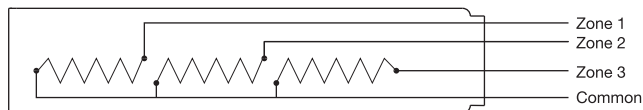
**DV1** 120/240 volts      **DV2** 240/480 volts



**Type DWV Dual Circuits**

**Available on HDC, HDM, and LDC cartridge heaters  
1/2" diameter and larger (See page 2-4)**

Independent resistance elements can be designed in a single cartridge heater for added versatility.

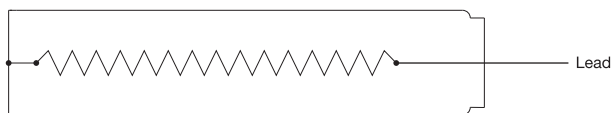


**Type MHZ Multiple Heat Zones (3-Zones Maximum)**

**Available on HDC and HDM cartridge heaters  
3/8" diameter and larger (See page 2-4)**

3/8" and 1/2" diameter heaters may require a larger diameter transition area at lead end.

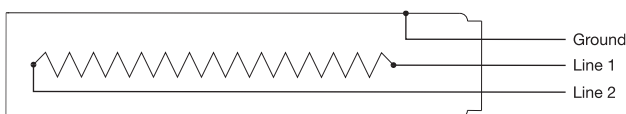
Multiple independently operated sections of the heater with a common wiring connection can be designed for increased flexibility.



**Type GJ Grounded Element Winding**

**Available on HDC, HDM, and LDC cartridge heaters**

For DC applications where the electrical circuit is negative grounded, the cartridge heater can be designed with one side of the element winding grounded to the sheath and a single lead wire exiting the cartridge heater.



**Type GL Ground Lead/Sheath**

**Available on HDC, HDM, and LDC cartridge heaters**

For those applications requiring a separate ground lead attached to the cartridge heater sheath.

Standard ground lead wire is a 10" long insulated stranded conductor. Optional insulated and color coded leads are available.



Available through the Hi-Density  
Cartridge Heater Terminator Program  
for 2nd Day Delivery