

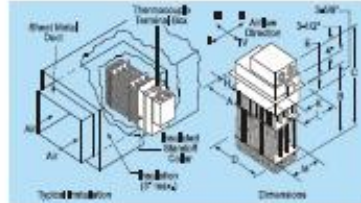
Heaters

Finned Tubular Heater

Voltage: 110V/220V/380V/460V

Operating temp: 30-420 °C

Material: SUS304/316 / INCONEL

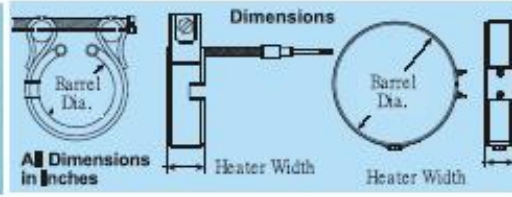


Mica Strip/Band Heater

Voltage: 110V/220V/380V

Operating temp: 30-300 °C

Material: SUS304/316



Flexible Heater

Voltage: 110V/220V

Operating temp: 30-200 °C

Material: silicone



IR Heater

Voltage: 110V/220V

Operating temp: 30-550 °C

Material: Quartz, Sic


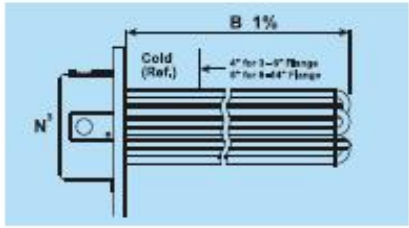


Immersion Heater
 Voltage: 110V/220V/380V/460V Operating temp: 30~250 °C
 Material: Cu · SUS304/316/INCONEL






Flange Heater
 Voltage: 110V/220V/380V Operating temp: 30~250 °C
 Material: SUS304/316 · Titanium/ INCONEL

Quartz Heater
 Voltage: 110V/220V/380V Operating temp: 30~200 °C
 Material: Quartz




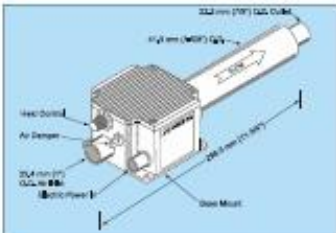
Cartridge Heater
 Voltage: 110V/220V/380V Operating temp: 30~550 °C
 Material: CU , SUS304 , SUS316 , INCONEL , Titanium




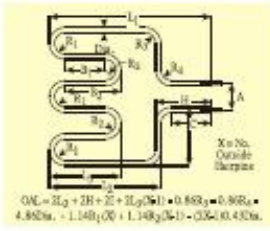
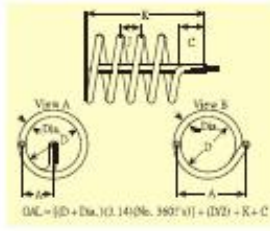
Cast heater
 Voltage: 110V/220V/380V Operating temp: 30~550 °C
 Material: Cast Aluminum




Air Heaters
 Voltage: 110V/220V Operating temp: 30~700 °C
 Material: SUS304/316

Tubular Heater
 Voltage: 110V/220V Operating temp: High temp
 Material: SUS304/316/310 ~ Inconel






Immersion Heater
 Voltage: 110V/220V/380V/460V Operating temp: 30~250 °C
 Material: Cu ~ SUS304/316/Inconel




Teflon Heater
 Voltage: 110V/220V/380V Operating temp: 30~150 °C
 Material: Teflon





Sheath heater / cable heater

Configuration:

Micro Heater consists of the metal sheath surrounding high purity compacted MgO (Magnesium Oxide) powder insulation and the equally spaced linear Nickel-chrome wires.

A humidity proof transition (potting sleeve) to flexible lead wire is used to eliminate absorption of airborne moisture. Isolation of the heater wires removes the life shortening oxidation of corrosion common to bare wire heaters.

Micro Heater features high reliability, efficiency, very rapid response time and high temperatures. The heating portion can be bent, coiled, silver soldered and also cast into a metal block.

Either stainless steel or Inconel 600 are available as sheath material for excellent heat and corrosion resistance. With very small outside diameters, very important for intricately shaped locations.

Features:

Micro Heater has the following more remarkable features.

1. Wide Application

Micro Heater can easily be mounted on a small object due to its small diameter. Also it can withstand high temperature and high pressure and be used in the wide temperature range of -200 to 700°C because of the sheathed type.

2. Uniform Heating and Preheating

Because of much longer heating length than other heaters, it can heat and preheat effectively over a wide range like rigid plate heating element.

3. Easy Handling

Since Micro Heater allows a minimum bend radius that is two (2) times the sheath diameter, it can easily be mounted in a narrow or unusual spaces.

4. Long Life

Since Micro Heaters element is insulated and sealed with chemically stabilized MgO to avoid drop of insulation resistance and wire break, longer life compared to the conventional heaters is assured.

5. High Mechanical Strength and Pressure Resistance

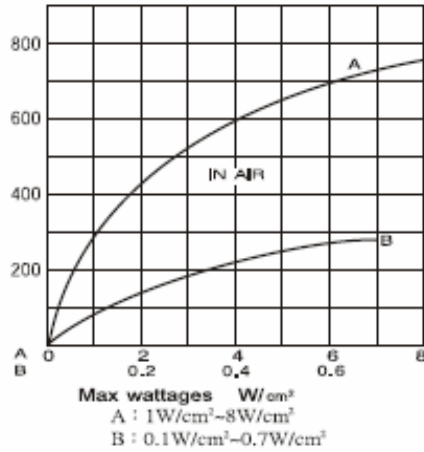
Micro Heater can be used with confidence even in vibration of corrosive atmosphere.

6. Sheath Outside Diameters Available

1.0 to 8.0mm sheath outside diameters are available.

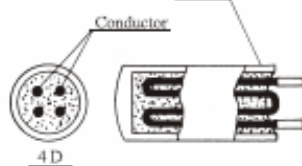
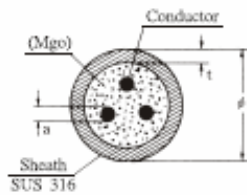
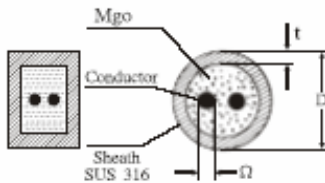
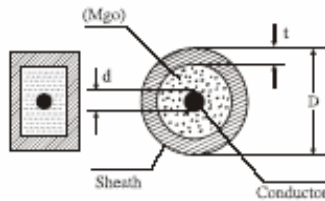


Sheath temperature °C



O.D	Max temp	Dielectric strength test 1 min	Sheath material
Ø 1.0	400°C	500 VAC	SUS 316 Inconel
Ø 1.6	500°C	500 VAC	
Ø 2.4	600°C	800 VAC	
Ø 3.2	700°C	1100 VAC	
Ø 4.8	800°C	1500 VAC	

construction



specification

Sheath O.D	Conductor O.D	Sheath t	RO(Ω/m)	Max length	Max (A)
1.0	0.22	0.12	28.0	100	1.8
1.6	0.35	0.19	11.0	100	3.4
2.4	0.57	0.26	4.6	70	7.0
3.2	0.68	0.30	2.4	40	8.5
4.8	0.92	0.40	1.5	20	15.0

Item \ O.D	1.6	2.4	2.8	3.2	4.0	4.8
Resistance	29Ω	12.8Ω	9.4Ω	7.2Ω	4.4Ω	3.2Ω
Conductor O.D	0.31 Ø	0.47 Ø	0.55 Ø	0.63 Ø	0.8 Ø	0.96 Ø
Max (A)	3.0	5.3	6.5	8.0	11.0	14.5

Item \ O.D	1.6	2.4	2.8	3.2	4.0	4.8
Resistance	60Ω	27Ω	20Ω	15Ω	9.6Ω	6.6Ω
Conductor O.D	0.21 Ø	0.32 Ø	0.37 Ø	0.44 Ø	0.54 Ø	0.65 Ø
Max (A)	1.6	3.0	3.7	4.5	6.2	8.25

Item \ O.D	1.6	2.4	2.8	3.2	4.0	4.8
Resistance	94Ω	42Ω	31Ω	24Ω	15Ω	10.6Ω
Conductor O.D	0.17 Ø	0.26 Ø	0.3 Ø	0.35 Ø	0.44 Ø	0.52 Ø
Max (A)	1.2	2.2	2.7	3.4	4.4	5.7

Sheath O.D	Conductor O.D Ø	Resistance (Ω/m)	Sheath t	Max (A)
2.4	0.18	42.0×3	0.26	1.3
3.2	0.25	22.7×3	0.30	2.0
4.0	0.30	14.9×3	0.35	2.6
4.8	0.38	10.1×3	0.40	3.9

Sheath O.D (Ø mm)	Resistance (Ω/m)	Conductor O.D (Ø mm)	Max (A)
2.4	220	0.16	1.0
	168	0.18	1.3
3.2	120	0.21	1.5
	96	0.22	1.6