

KTE5 Series – 19.50" × 2.46" Housing Watts/Square Inch vs. Temperature Data

Heater Wattage	Heater Face Watt Density*		Heater Body Temp @ 72°F**		Peak Emitted Wavelength*** (microns)	
	Style S	Style C	Style S	Style C	Style S	Style C
250	7.16	6.13	556	505	5.14	5.41
300	8.59	7.36	620	565	4.83	5.09
375	10.73	9.20	702	645	4.49	4.72
400	11.45	9.81	726	669	4.40	4.62
500	14.31	12.26	811	752	4.10	4.30
600	17.17	14.71	880	822	3.89	4.07
750	21.47	18.39	966	907	3.66	3.82
800	22.90	19.62	992	931	3.59	3.75
900	25.76	22.07	1040	977	3.48	3.63
1000	28.62	24.52	1085	1019	3.38	3.53
1250	35.78	30.65	1191	1116	3.16	3.31
1500	42.93	36.78	1287	1205	2.99	3.13
1650	47.22	40.46	1336	1255	2.90	3.04
1700	48.65	41.69	1351	1271	2.88	3.01
1750	50.09	42.91	1366	1286	2.86	2.99
1800	51.52	44.14	1379	1301	2.84	2.96
1900	54.38	46.59	1403	1329	2.80	2.92
2000	57.24	49.04	1425	1355	2.77	2.87

*Heater Face Watt Density

Watt density calculation is based on heater face surface area, which is a relative constant value used to relate different sizes of heaters. The 6 tube KTE (Style S) has a surface area 85.7% of a 7 tube unit and will operate at a temperature 16.6% higher than the 7 tube (Style C) unit. This relationship has been confirmed through laboratory testing on various sizes of KTE heaters.

**Heater Body Temp @ 72°F

Heater face temperature as measured with a type K thermocouple mounted directly on the heater face. Temperatures are for a single heater facing down with target re-radiation from an oxidized SS surface 3" from heater face. Operating temperatures (and emitted wavelength) will vary with application conditions such as higher ambient, target absorption properties, moving/stationary systems, and distance to target. The tabulated temperatures are averages compiled from standardized lab tests on different ratings and sizes of KTE heaters. Translucent tube testing showed that various reflector materials and surface conditions (bright, oxidized, etc.) had little or no effect on test results. Lower heater temperatures will occur if radiation is allowed to dissipate freely from the surface without target re-radiation (about 20-25% lower when facing up in open air).

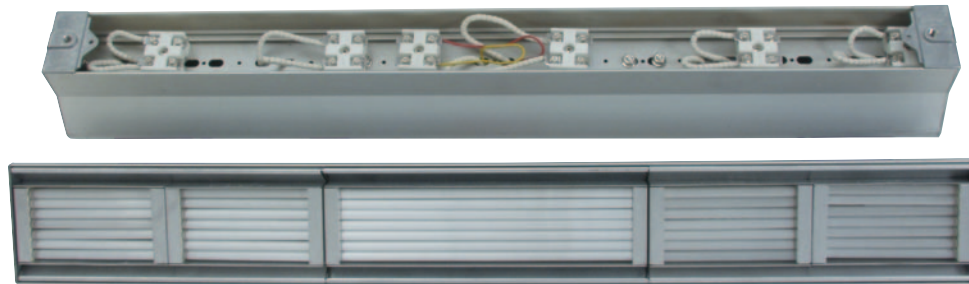
***Peak Emitted Wavelength

Peak infrared radiation wavelength as calculated from Wien's Displacement Law, for the operating temperature shown, expressed in microns (μm). The emissivity of KTE quartz heaters is close to the ideal blackbody value of 1.0 (range is from .88 to .92). This has been confirmed by testing using a thermal infrared camera.

Custom CRA Linear Heater Assemblies for KTE and KTG E-Mitters Using Standard Components

Do It Yourself or let Tempco build an array to your exact specifications.

The CRK Linear Housings assembly (page 7-19) and other components on pages 7-16 through 7-23 for Ceramic E-Mitters are also used with KTE and KTG E-Mitters.



Custom ARV Array Housing Assemblies for KTE and KTG E-Mitters (see pages 7-48 through 7-51)

