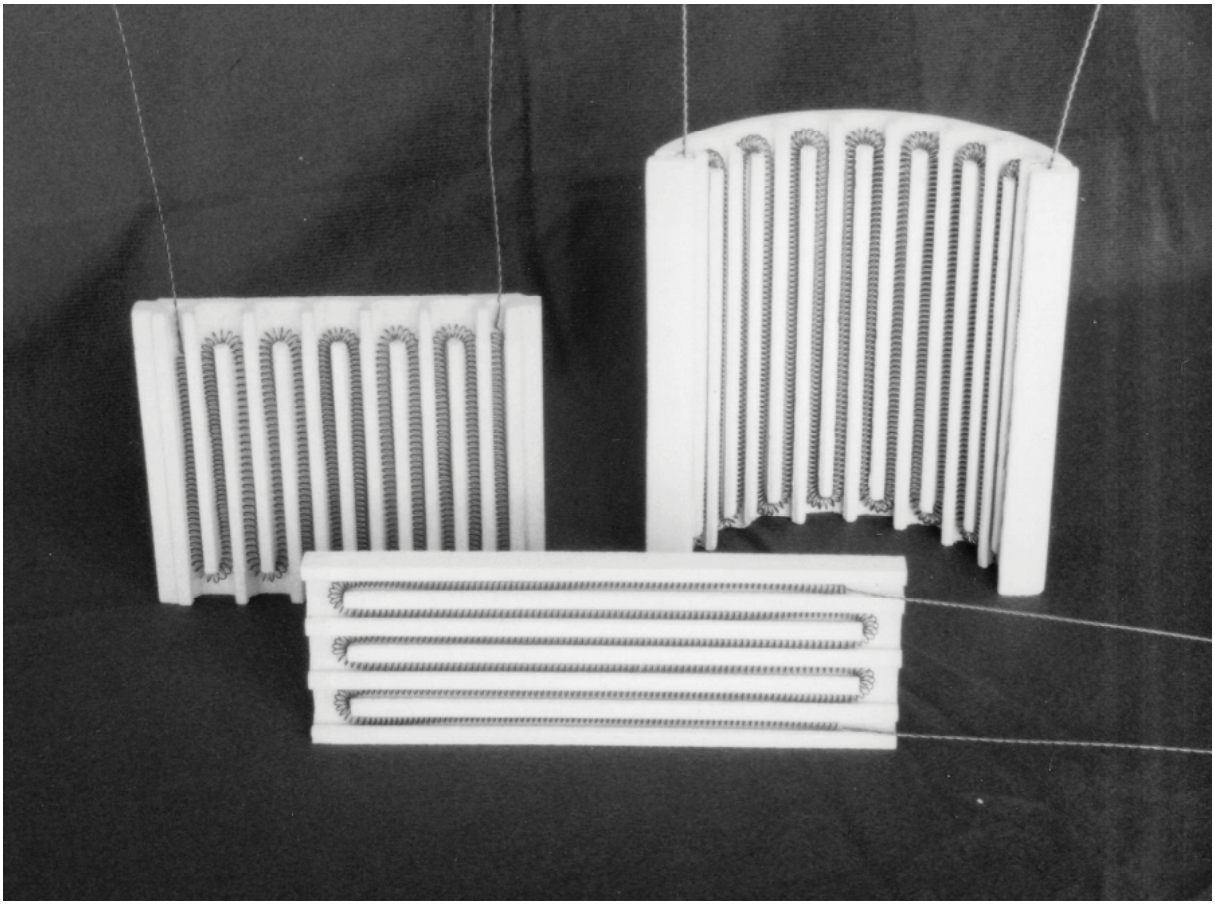
APPLIED TEST SYSTEMS

THE MARK OF RELIABILITY

Product Bulletin

Electric Heating Elements



Maximum-Performance Electric Heating Elements

Table of Contents

Electric Heating Elements

Applied Test Systems manufactures Electric Heating Elements that enable you to obtain maximum heating performance from your lab and or test furnace. Manufactured from top quality wire and ceramic holders, they can reach temperature ratings of 1850º F (1010º C), 2200º F (1204º C), and 2282º F (1250º C) and are offered embedded or open.

A high conductivity cement is used to enable the elements to offer maximum heating capability. They are designed to have minimum watt density for maximum performance. A wide selection of standard elements are available with a two week delivery as well as a rush two day delivery available for emergencies. Upon request, special elements are made to custom sizes, wattages, voltages, and wire materials.

Specifications

Element Materials	**2282º F (1250º C) Elements:** Kanthal APM, an advanced powder-metallurgical, dispersion-strengthen, ferritic iron-chromium-aluminum alloy. **2200º F (1204º C) Elements:** High quality Kanthal A1 wire consisting of an alloy of iron, chromium, and aluminum. Provides high temperature and long-life performance. **1850º F (1010º C) Elements:** 80 Ni/20 Cr wire known for its reliability for decades.
Embedding	**2282º F (1250º C) Elements:** Always supplied “open windings”, the alloy offers a unique combination of excellent oxidation properties and form stability at high temperatures. **2200º F (1204º C) Elements:** Normally supplied embedded. Open windings available upon request. **1850º F (1010º C) Elements:** Normally supplied embedded. Open windings available upon request.
Lead Length	Twisted 18 inch standard. Other lengths available upon request.
Element Clearance	To achieve maximum element life, provide at least 1/8 inch radial clearance per inch of tube diameter when heating process tubes. Example: ¾ inch clearance on each side is required when using a 6 inch diameter process tube.
Element Life	Avoid rapid voltage fluctuations and temperature changes to obtain optimum element life.

Specifications

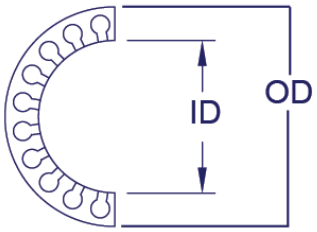
Voltage Limits	Elements may be connected in series to accommodate higher voltage. Operation at 460 volts is not recommended due to dielectric properties of the ceramics except for Extra Heavy Duty Plates.
Diameter Tolerance	Due to changes in the dimensions when fired, element diameters many vary as much as 1/8 inch on small units to 3/8 inch on large ones.
Atmosphere Cautions	Contact Applied Test Systems regarding unusual applications, especially when corrosive atmosphere conditions exist.
Price Quotes	Please contact Applied Test Systems at 724-283-1212 or Sales@atspa.com for a quotation.
Element Replacement	Direct replacements are available for other makes of elements and furnaces. Contact Applied Test Systems at 724-283-1212 or Sales@atspa.com for more information.
Delivery	Estimated delivery is two weeks, however times are subject to change based on the factory load at the time of the order. Please see your quotation for more accurate lead time information.
Warranty	90 days on manufacturing and materials defects.

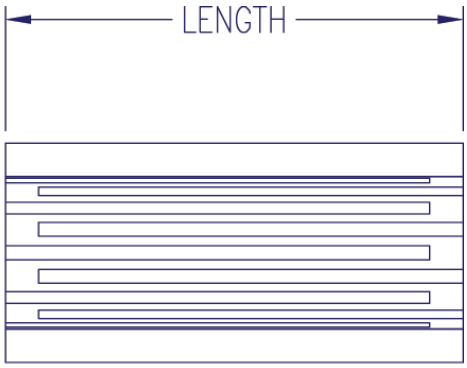
Half Section (Two Required Per Cylinder)

I.D.	1850º F 1010º C		2200º F 1204º C		Dimensions in Inches			Volts
	Model	Watts	Model	Watts	Length	Outside Diameter	Inside Diameter	
3/4 in.	SK-100	255	SK-200	335	6	1 11/16	3/4	57 1/2
	SK-101	425	SK-201	595	12	1 11/16	3/4	115
	SK-102	600	SK-202	720	18	1 11/16	3/4	115
	SK-103	710	SK-203	1000	24	1 11/16	3/4	230
1 in.	SK-104	220	SK-204	220	3	2 1/16	1	57 1/2
	SK-105	255	SK-205	335	6	2 1/16	1	57 1/2
	SK-106	475	SK-206	535	9	2 1/16	1	115
	SK-107	530	SK-207	610	12	2 1/16	1	115
	SK-108	600	SK-208	720	18	2 1/16	1	115
1 1/4 in.	SK-109	108	SK-209	108	2	2 1/16	1 1/4	28 1/2
	SK-110	220	SK-210	220	4	2 1/16	1 1/4	57 1/2
	SK-111	225	SK-211	335	6	2 1/16	1 1/4	57 1/2
	SK-112	305	SK-212	360	8	2 1/16	1 1/4	115
	SK-113	370	SK-213	425	10	2 1/16	1 1/4	115
	SK-114	425	SK-214	595	12	2 1/16	1 1/4	115
	SK-115	610	SK-215	720	18	2 1/16	1 1/4	115
	SK-116	725	SK-216	1020	24	2 1/16	1 1/4	230
1 5/8 in.	SK-117	435	SK-217	510	6	2 5/8	1 5/8	115
	SK-118	605	SK-218	710	12	2 5/8	1 5/8	115
	SK-119	865	SK-219	1000	18	2 5/8	1 5/8	230
	SK-120	1200	SK-220	1350	24	2 5/8	1 5/8	230
	SK-121	1355	SK-221	1410	30	2 5/8	1 5/8	230

Half Section (Two Required Per Cylinder)

I.D.	1850º F 1010º C		2200º F 1204º C		Dimensions in Inches			Volts
	Model	Watts	Model	Watts	Length	Outside Diameter	Inside Diameter	
2 in.	SK-122	205	SK-222	255	3	2 7/8	2	57 1/2
	SK-123	450	SK-223	500	6	2 7/8	2	115
	SK-124	600	SK-224	725	9	2 7/8	2	115
	SK-125	875	SK-225	940	12	2 7/8	2	115
	SK-126	1100	SK-226	1290	18	2 7/8	2	230
	SK-127	1200	SK-227	1400	24	2 7/8	2	230
2 3/8 in.	SK-128	215	SK-228	255	2 1/2	3 1/4	2 3/8	57 1/2
	SK-129	250	SK-229	305	3	3 1/4	2 3/8	57 1/2
	SK-130	305	SK-230	365	4	3 1/4	2 3/8	57 1/2
	SK-131	365	SK-231	415	5	3 1/4	2 3/8	115
	SK-132	450	SK-232	515	6	3 1/4	2 3/8	115
	SK-133	515	SK-233	560	7	3 1/4	2 3/8	115
	SK-134	595	SK-234	610	8	3 1/4	2 3/8	115
	SK-135	605	SK-235	725	9	3 1/4	2 3/8	115
	SK-136	720	SK-236	870	10	3 1/4	2 3/8	115
	SK-137	875	SK-237	940	12	3 1/4	2 3/8	230
	SK-138	935	SK-238	1000	14	3 1/4	2 3/8	230
	SK-139	1100	SK-239	1290	18	3 1/4	2 3/8	230
	SK-140	1150	SK-240	1350	20	3 1/4	2 3/8	230
	SK-141	1185	SK-241	1450	24	3 1/4	2 3/8	230
	SK-142	1450	SK-242	1750	30	3 1/4	2 3/8	230





Half Section (Two Required Per Cylinder)

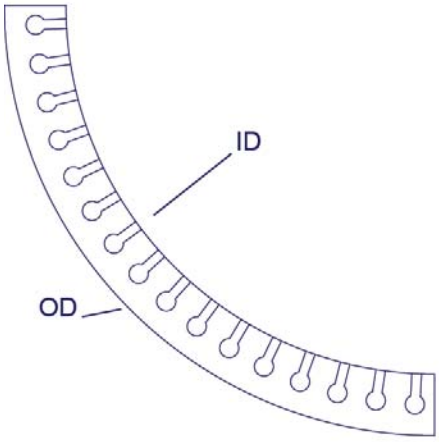
I.D.	1850º F 1010º C		2200º F 1204º C		Dimensions in Inches			Volts
	Model	Watts	Model	Watts	Length	Outside Diameter	Inside Diameter	
3 in.	SK-143	305	SK-243	355	3	4	3	57 1/2
	SK-144	430	SK-244	590	5	4	3	115
	SK-145	580	SK-245	610	6	4	3	115
	SK-146	655	SK-246	870	8	4	3	115
	SK-147	725	SK-247	960	10	4	3	230
	SK-148	830	SK-248	1120	12	4	3	230
	SK-149	1000	SK-249	1280	15	4	3	230
	SK-150	1270	SK-250	1400	18	4	3	230
	SK-151	1400	SK-251	1630	20	4	3	230
	SK-152	1630	SK-252	1750	24	4	3	230
	SK-153	1750	SK-253	1900	30	4	3	230
3 3/4 in.	SK-154	715	SK-254	820	6	5	3 3/4	115
	SK-155	1180	SK-255	1630	12	5	3 3/4	230
	SK-156	1750	SK-256	2200	18	5	3 3/4	230
	SK-157	2055	SK-257	3225	24	5	3 3/4	230
	SK-158	2840	SK-258	3840	30	5	3 3/4	230
	SK-159	3280	SK-259	4000	36	5	3 3/4	230
5 in.	SK-160	430	SK-260	580	3	6 1/2	5	115
	SK-161	870	SK-261	1065	6	6 1/2	5	230
	SK-162	1210	SK-262	1440	9	6 1/2	5	230
	SK-163	1420	SK-263	2040	12	6 1/2	5	230
	SK-164	1740	SK-264	2300	15	6 1/2	5	230
	SK-165	2020	SK-265	2525	18	6 1/2	5	230
	SK-166	2775	SK-266	3775	24	6 1/2	5	230
	SK-167	3280	SK-267	4225	30	6 1/2	5	230

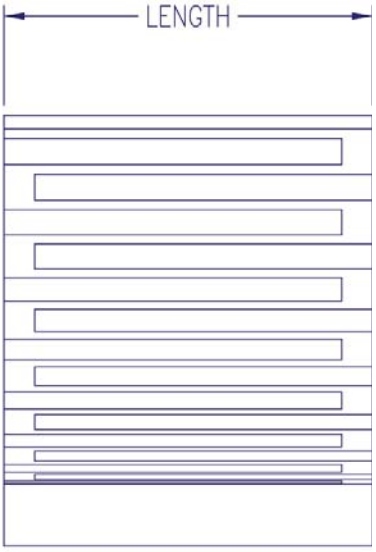
Half Section (Two Required Per Cylinder)

I.D.	1850º F 1010º C		2200º F 1204º C		Dimensions in Inches			Volts
	Model	Watts	Model	Watts	Length	Outside Diameter	Inside Diameter	
5 1/2 in.	SK-168	430	SK-268	600	3	7 1/8	5 1/2	115
	SK-169	870	SK-269	1065	6	7 1/8	5 1/2	230
	SK-170	1210	SK-270	1450	9	7 1/8	5 1/2	230
	SK-171	1420	SK-271	2040	12	7 1/8	5 1/2	230
	SK-172	2000	SK-272	2525	18	7 1/8	5 1/2	230
	SK-173	2775	SK-273	3775	24	7 1/8	5 1/2	230
	SK-174	3280	SK-274	4225	36	7 1/8	5 1/2	230
6 in.	SK-175	1220	SK-275	1450	6	7 5/8	6	230
	SK-176	1750	SK-276	2100	12	7 5/8	6	230
	SK-177	2900	SK-277	3500	18	7 5/8	6	230
	SK-178	3500	SK-278	4000	24	7 5/8	6	230
	SK-179	4000	SK-279	4600	30	7 5/8	6	230
	SK-180	4600	SK-280	5000	36	7 5/8	6	230
7 in.	SK-181	990	SK-281	1165	6	8 1/2	7	230
	SK-182	1450	SK-282	1725	9	8 1/2	7	230
	SK-183	1895	SK-283	2290	12	8 1/2	7	230
	SK-184	2825	SK-284	3700	18	8 1/2	7	230
	SK-185	3410	SK-285	4400	24	8 1/2	7	230
	SK-186	3900	SK-286	5000	30	8 1/2	7	230
	SK-187	4400	SK-287	5600	36	8 1/2	7	230

Quarter Section (Four Required Per Cylinder)

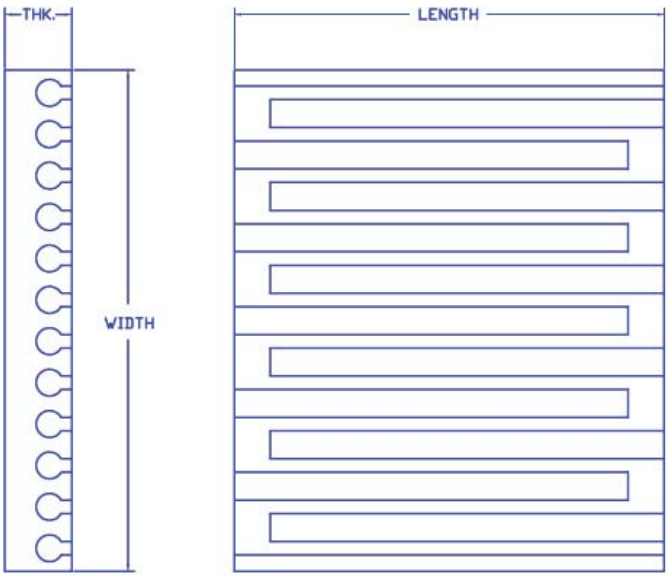
I.D.	1850º F 1010º C		2200º F 1204º C		Dimensions in Inches			Volts
	Model	Watts	Model	Watts	Length	Outside Diameter	Inside Diameter	
8 1/4 in	QSK-188	900	QSK-288	1075	8	9 3/4	8 1/4	230
	QSK-189	1200	QSK-289	1600	12	9 3/4	8 1/4	230
	QSK-190	1650	QSK-290	2150	16	9 3/4	8 1/4	230
	QSK-191	2275	QSK-291	3350	24	9 3/4	8 1/4	230
	QSK-192	2600	QSK-292	3600	30	9 3/4	8 1/4	230
	QSK-193	3000	QSK-293	4000	36	9 3/4	8 1/4	230
12 in.	QSK-194	1005	QSK-294	1165	6	14	12	230
	QSK-195	1900	QSK-295	2300	12	14	12	230
	QSK-196	2825	QSK-296	3700	18	14	12	230
	QSK-197	3400	QSK-297	4600	24	14	12	230
	QSK-198	3800	QSK-298	5000	30	14	12	230
	QSK-199	4200	QSK-299	5400	36	14	12	230





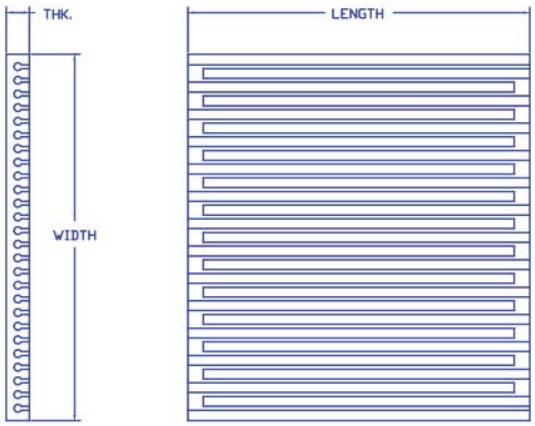
Extra Heavy-Duty Plates

1850º F 1010º C		2200º F 1204º C		Dimensions in Inches				Volts
Model	**Watts**	**Model**	**Watts**	**Length**	**Width Sizes**	**Thickness Sizes**	**Number of Grooves**	
K-400	600	K-500	850	6	6	2	6	115
K-401	1000	K-501	1600	12	6	2	6	115
K-402	2000	K-502	3000	18	6	2	6	230
K-403	3300	K-503	4000	24	6	2	6	230/460
K-404	1500	K-504	2000	12	14 1/4	2	12	230
K-405	4000	K-505	5500	24	14 1/4	2	12	230/460
K-406	6500	K-506	8000	36	14 1/4	2	12	230/460



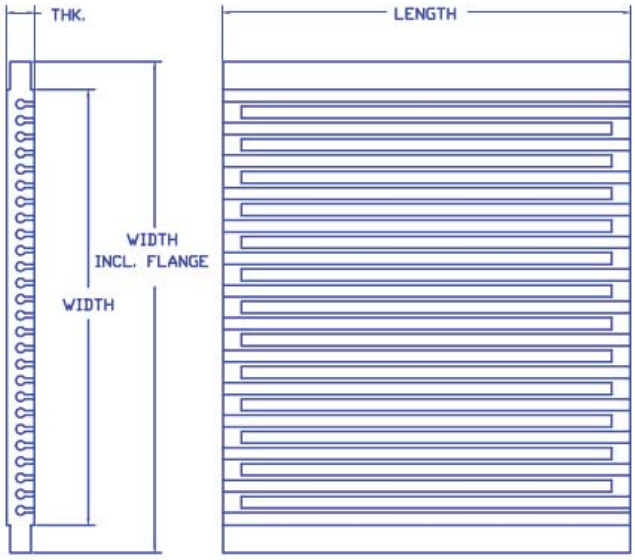
Flat Plates Without Flanges

1850º F 1010º C		2200º F 1204º C		Dimensions in Inches			Volts
Model	**Watts**	**Model**	**Watts**	**Length**	**Width Sizes**	**Thickness Sizes**	
SK-401	310	SK-501	440	4 1/2	4 3/4	3/4	57 1/2
SK-402	165	SK-502	200	4 1/2	2 1/2	3/4	57 1/2
SK-403	175	SK-503	220	5 1/2	2 1/2	3/4	57 1/2
SK-404	310	SK-504	400	6	3 1/2	3/4	57 1/2
SK-405	420	SK-505	575	6	6	3/4	115
SK-406	175	SK-506	220	7	2 3/8	3/4	57 1/2
SK-407	215	SK-507	245	7	2 7/16	3/4	57 1/2
SK-408	330	SK-508	370	7	4 1/8	3/4	57 1/2
SK-409	360	SK-509	400	8	5	3/4	57 1/2
SK-410	300	SK-510	340	9	3	3/4	115
SK-411	390	SK-511	430	9	5	3/4	115
SK-412	300	SK-512	350	10 1/2	3	3/4	115
SK-413	400	SK-513	450	10 1/2	5	3/4	115
SK-414	500	SK-514	690	12	3 5/8	3/4	115
SK-415	850	SK-515	1050	12	4 7/8	3/4	115
SK-416	700	SK-516	810	12	5 1/4	3/4	115
SK-417	915	SK-517	1100	12	6 1/4	3/4	115
SK-418	1000	SK-518	1340	12	7 1/2	3/4	230
SK-419	1000	SK-519	1150	12	9	3/4	115
SK-420	1500	SK-520	2000	12	12	3/4	230
SK-421	815	SK-521	965	14	5 1/2	5/8	115



Flat Plates With Flanges

1850º F 1010º C		2200º F 1204º C		Dimensions in Inches				Volts
Model	**Watts**	**Model**	**Watts**	**Length**	**Width with Flange**	**Plate Width**	**Thickness Sizes**	
SK-601	300	SK-701	435	4 1/2	5 3/8	4 7/8	3/4	57 1/2
SK-602	425	SK-702	580	6	6 1/2	6	3/4	115
SK-603	525	SK-703	675	6	8 5/8	7 3/16	3/4	115
SK-604	430	SK-704	700	8	8 11/16	7 1/2	3/4	115
SK-605	700	SK-705	825	10 1/2	8 3/4	7 3/8	3/4	115
SK-606	690	SK-706	925	12	8 7/8	7 1/2	3/4	115
SK-607	1500	SK-707	2000	12	13 1/2	12	3/4	230
SK-608	1015	SK-708	1365	14	8 3/4	7 1/2	5/8	230



How to Contact ATS

APPLIED TEST SYSTEMS

THE MARK OF RELIABILITY

154 East Brook Lane
Butler, PA 16002 USA

Phone: +1-724-283-1212
Toll-Free: 800-441-0215
Fax: +1-724-283-6570
Email: sales@atspa.com
http://www.atspa.com

ACCREDITED
Calibration Laboratory
Certificate No. 2132.01
Inclusion of this logo does not imply certification/approval of the products calibrated.

MADE IN THE USA