

# SKUTT



Segment	Rate	Temperature	Hold
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2			
3			
4			
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6			
7			
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Segment	Rate	Temperature	Hold
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## Electrical requirements for Skutt Automatic Kilns and KilnMaster Controller

Model	Volts	Amps	Watts	Copper Wire Size*	Fuse or Breaker Size	NEMA Receptacle Configuration
KM-614-3	115	20	2300	10	30	(Canada) 5-30
KM-614-3	115	20	2300	10	30	5-20
KM-714	240-208	20	3600	10	30	14-30
KM-818	240	26.7	6400	8	40	6-50
KM-818	208	26.7	6400	8	40	6-50
KM-818-30A	240	21.7	5200	10	30	6-30
KM-818-30A	208	24.0	4900	10	30	6-30
KM-1018	240	38.5	9250	6	50	6-50
KM-1018	208	40	8320	6	50	6-50
KM-1027	240	48	11520	6	60	6-50
KM-1027	208	48	9984	6	60	6-50
KM-1027 3ph	240	29.3	11520	8	40	15-50**
KM-1027 3ph	208	31.3	11000	8	45	15-50**
KM-1227	240	48	11520	6	60	6-50
KM-1227	208	48	9984	6	60	6-50
KM-1227 3ph	240	29.3	11520	8	40	15-50**
KM-1227 3ph	208	31.7	11000	8	45	15-50**
KM-1	240-208	Switching Capacity			48	6-50
KM-1 3ph	240-208	Switching Capacity			40	15-50

\*For runs longer than 50 feet use heavier wire, numerically two numbers lower—for example, instead of #10, use #8. If you anticipate installing any larger kiln in the future, use the heavier wire.

\*\*See special instructions and wiring diagram.

### ADDITIONAL POWER NOTES

**Three-phase operation.** Only special order Model KM-1027 and KM-1227 will operate on a three-phase supply. However, any Skutt kiln can be properly powered via unbalanced connection to two of the three hot wires of a three-phase supply. Of course, the green safety ground connection provided in all Skutt power cords is also used. **Three-phase installation.** Three-phase Models KM-1027 and KM-1227 can be plugged directly into a three-phase (15-50R) wall receptacle. **208 versus 240 supplies.** As you can see from the chart, most Skutt models are available in either 208 or 240 volt versions. The exception is Model KM-714 which is universal, and will fire with 240V or 208V power.

The “120/208V” supply is increasingly encountered in schools and newly-built communities, because it’s more efficient for heavy 120V loads. This affects Models KM-818, KM-1018, KM-1027 and KM-1227 because their elements receive the full 208 (or 240) applied volts. The 208V versions should never be fired on a 240V supply without first installing a full set of 240V elements. Otherwise, all components will be seriously overtaxed.

### Important! Connecting and testing

**Model KM-714.** The wall outlets for Model KM-714 must be powered by 3-wire 120/240-208V solid neutral supply—as for an electric range. Only No. 10 wire is required (or No. 8 for runs over 50 feet). 30 Amp fuses or circuit breakers only—no larger or smaller—are recommended. The U-shaped fourth blade of the 4W30 Amp grounding plug is for the pure green wire grounding of the kiln case. The blade opposite this U-shaped one takes the white solid neutral wire. See the photo below and refer to the wiring diagram in Appendix 5 for the 714 plug diagram.

### PREPARATION BEFORE FIRING

Remove any brick chips or other foreign matter from around the elements. Bits of bisque and glaze will eat through elements and our warranty cannot cover such accidents. We recommend that you vacuum the inside of the kiln to remove any dust that accumulates during shipment.

Wipe all new shelves clean, and brush coat one side of each with high fire kiln wash. Apply a thin coating of kiln wash in one direction, allow to dry and apply another thin coating in the opposite direction leaving a 1/2” margin from the outside edge of the shelf. A new coat is seldom

needed—just spot-patch and sand off the surface evenly with coarse sandpaper wrapped around a wooden block. A fresh coat may be needed before a porcelain firing if glaze has dripped onto the shelf.

Kiln wash the floor of the kiln, being careful to leave a one inch margin unpainted all the way around interior edge. **Never kiln wash the walls or lid of your kiln!**

### THE IMPORTANT FIRST TEST FIRING

Now you’re ready to fire. Be sure to re-view the preceding sections, double checking for safety and correct electrical connections.

It is important to the life of your kiln that your first firing be done properly. Before you start, read this entire manual carefully, including the preceding sections and loading and firing instructions.

New elements and foreign matter like dust give off vapors that tend to discolor glazes. Therefore, your first firing should be a Cone 04 *empty* test fire with only your dry shelves in the kiln, posted as though ware were on them. The first time the elements are fired they will give off some smoke. This is normal and expected. This is a good time to use Self-Supporting Cones on the shelves to test the heat accuracy from top to bottom.

A Cone 04 (1922½) is recommended for proper pre-oxidation of a new element. The steps to accomplish this firing are the following:

1. Activate the touch pad by turning the Power to On. Press Enter.
2. Press Cone Fire mode.

3. Press 0 4 then Enter.
4. Press Medium speed then Enter.
5. Press Enter or an amount of time in hours and minutes for Hold.
6. Press Start to begin the firing. The firing will take approximately 7 1/2 hours.

Even though you have gone through a simple program for a test firing, please continue to read the detailed instructions in the Cone Fire and Ramp/Hold sections of this manual.

Periodically view your Self-Supporting Cone by removing a peephole plug. It should bend to the top of the base (5 o'clock position) and the kiln should turn off about the same time. Watch your kiln throughout the firing. Don't rush through the first firing. Make notes of things that you want to remember and make visual observations of the kiln while it is firing.

Likely, everything will work as it should, and you're ready to go on to production firings. If things go wrong, re-read this manual and contact your Skutt dealer.

You will notice a clicking sound while your kiln is firing. This is normal. The elements are cycling on and off to stay within the temperature parameters you have programmed.

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