

USER MANUAL



GG 10-K Propane Melting Furnace

PART LISTS



Furnace Chamber



Furnace Lid



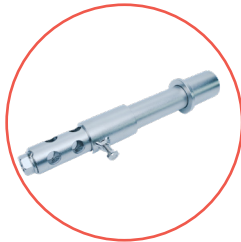
Crucible



Firebrick



Tongs



Air Intake



Regulator & Hose

****hose may be black or white****

ASSEMBLY



Figure 1



Figure 2



SET UP VIDEO

Scan QR code for
step-by-step setup
video

STEP 1

Connect the regulator & hose (G) to the air intake (F). (See Figure 1) Tighten by hand, then use a wrench to make sure the connection is snug. Do not overtighten.

STEP 2

Insert the air intake (F) into the opening on the side of the furnace chamber (A) and tighten the 3 bolts to secure the burner to the furnace.

ASSEMBLY CONTINUED...



Figure 2b

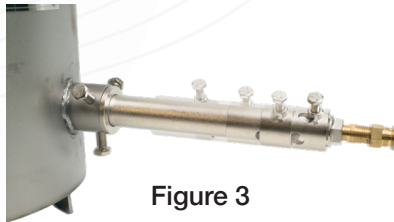


Figure 3

STEP 3

Remove the lid, remove the crucible, and place the firebrick (D) flat on the bottom of the furnace.

STEP 4

Ensure that the regulator is off by turning the knob clockwise until it stops, then connect the regulator (G) to a propane tank. Your setup should now look like Figure 2b.

STEP 5

Fully open the valve on the propane tank by turning the knob counter-clockwise until it stops.

STEP 6

Slightly open the regulator valve by turning it counter-clockwise to allow the propane to begin flowing into the furnace's chamber

ASSEMBLY CONTINUED...

STEP 7

Using a grill lighter, ignite the propane inside the furnace.

Caution: Always use protective equipment and do not get too close to the furnace when lighting.

STEP 8

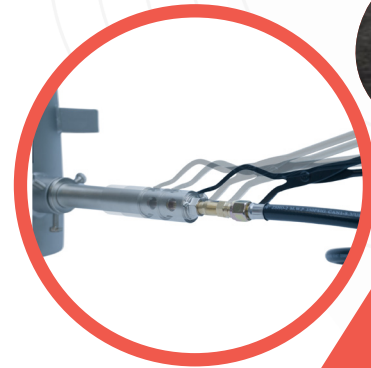
Create a stable flame by adjusting the air and fuel adjustments.

To adjust the air intake, slide the sleeve on the air intake (F) to expose more holes (more oxygen) or hide the holes (less oxygen) - as shown in figure 3. To adjust the fuel level, turn the regulator knob counter-clockwise (add fuel) or clockwise (reduce fuel).

TIP: Use the tongs to grab the set screw on the sleeve to adjust the air intake. It is not necessary to tighten the set screw on the sleeve at any time.

STEP 9

Carefully place the crucible (C) on top of the firebrick (D) using the tongs (E).



DISCLAIMER

1. Make sure to allow a minimum of a foot and a half (18 inches) clearance between the furnace and any surrounding combustible items or surfaces. This space should help dissipate the heat emitted by the furnace.
2. Keep the furnace away from combustible or flammable materials as the furnace may cause them to ignite.
3. The GG-10K is best used in an area with good ventilation to avoid hazards related to fumes
4. released by some alloys. Check local and federal guidelines for proper ventilation.
5. We recommend that you keep the original carton and packaging material to re-use in the event the furnace must be returned for servicing.
6. This is not an industrial grade smelting furnace. You may need to replace kaowool insulation over time. Slight warping and discoloration of the furnace's chamber will occur over time due to the high heat of the direct flame but will not affect the functionality of your furnace.

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- *Using the furnace without first treating the kaowool insulation can release harmful fibers into the air.*
 - *It is recommended to treat the kaowool insulation with either rigidizer spray and/or refractory cement.*
 - *Rigidizer spray can be simply sprayed onto the kaowool insulation and it will harden to prevent the fibers from becoming airborne.*
 - *Refractory cement is more difficult to apply, but it will also prevent the kaowool fibers from becoming airborne.*

OPERATIONAL SAFETY

Your melting furnace is designed to provide safe and efficient operation. Due to the extremely high heat and molten metal involved in this process, a high degree of caution and care are critical to ensure its safe use. Please note the following the precautions before operating this furnace.

WARNING

- Always use appropriate safety equipment including:
 - | Safety glasses | Heat resistant gloves | Fireproof apron | Leather-toed shoesMolten metal can cause serious injury if not handled properly and carefully
- When operating your furnace:
 - Keep hands, hair and clothing away from melting chamber
 - Do not let moisture drip into the molten metal. A violent reaction may occur
 - Do not touch the furnace while in use or until sufficient cooling time has passed
 - The furnace generates extremely high temperature that can cause severe burns or a fire
- A temperature significantly higher than the melting point of the metal you are putting inside the crucible may result in excessive boiling of the metal. This may result in molten metal popping outside of the crucible when opening the lid.

Note: Prior to every use, inspect your crucible for:

 - Cracks
 - Wear
 - DeteriorationHigh heat may cause the walls and base of your crucible to gradually become thinner. This may result in leaking molten metal

FREQUENTLY ASKED QUESTIONS

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1

Do I need to treat the kaowool insulation before use?

It is highly recommended to treat the kaowool insulation with rigidizer spray and/or refractory cement. Rigidizer spray can be simply sprayed onto the kaowool insulation and it will harden to prevent the fibers from becoming airborne. Refractory cement is more difficult to apply, but it will also prevent the kaowool fibers from becoming airborne.

2

How do I “cure” my crucible? Is it necessary?

It is technically not necessary to cure your crucible, however, it can help prevent premature failure or cracking. The process to treat the crucible is In order to heat-cure your crucible, do the following.

- Begin by putting the container in the oven at 300 degrees for an hour. Allow it to cool.
- Next, temper the crucible by heating it in the furnace until it is red hot.
- Once the crucible is glowing red hot, turn off the furnace and allow it to fully cool.

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3

Why isn't my furnace reaching optimum temperature?

If your furnace isn't getting hot enough, try the following steps:

- “Reset” the regulator by turning the knob all the way clockwise (closed), then all the way counter-clockwise (open), two times.

- Ensure the kaowool insulation is not obstructing the hole where the intake & burner pipe enters the furnace.
- Ensure there is adequate space between the kaowool insulation and the crucible inside your furnace.
- If the furnace is still not getting hot enough, please contact us at castmastershelp@gmail.com

Why is the flame “sputtering” or unsteady?

4

If you are unable to get a steady flame, or the flame is sputtering, try the following:

- Adjust the air/fuel ratio. The perfect mixture of air and fuel takes time and practice to achieve.
- If this is unsuccessful, “reset” the regulator by turning the knob all the way clockwise (closed), then all the way counter-clockwise (open), two times.
- Ensure the kaowool insulation is not obstructing the hole where the intake & burner pipe enters the furnace.
- Ensure there is adequate space between the kaowool insulation and the crucible inside your furnace.
- If you are still experiencing sputtering, please contact us at castmastershelp@gmail.com

Do I need to use borax in the crucible?

5

It is not required to use borax, however, using borax helps to dissolve Oxides and other impurities and produce a fluid borate slag that collects on the surface of the molten metal.

To apply borax to the crucible, first prepare a torch. Blow air through the crucible to clear out any dust and particles that may be sitting in there. Then, put the torch on the crucible to warm it up and evaporate any excess moisture. Next, sprinkle in the borax powder. Because the crucible is hot, the borax should start to melt and stick to the crucible. Then, put the torch onto the borax until it melts. Allow it to cool, then proceed to use the crucible as normal.

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CONTACT US

Our customer service team is standing by and ready to assist you with any questions, concerns, or troubleshooting that you may need.

For **QUESTIONS, CONCERNS, OR ASSISTANCE**, contact us by email at castmastershelp@gmail.com



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