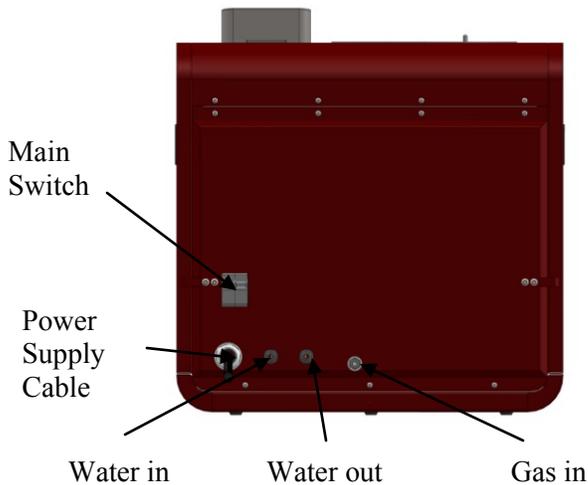


UltraCast

Basic Installation



1 Water Connections

Unscrew the cap of the round fitting, marked with “Water In”, located on the rear panel of the machine.

Unscrew the cap of the round fitting, marked with “Water out”, located on the rear panel of the machine.

Connect the hoses and check for leaking, if there isn't visible problem you may continue installation.

2 Gas Input Connection

Connect the Gas connection to Argon. The Argon pressure should be regulated to 80-90 PSI. Do not use other gasses such as pressurized air or nitrogen if you melt titanium.

3 AC Power Connection

The Power supply connects to the power network through a supplied 6 ft power cord. Connecting it to an additional fuse or circuit breaker provides extra protection to the unit.

Quick Start Guide

Casting Procedure



1 Turn On the Machine

Turn on the Circuit Breaker on the back of the unit, the Power Switch, and the Argon gas supply. Check for ready message on the LCD display.

2 Load

Follow the instructions on the back to prepare the mold. Take the hot investment ring from the burnout oven. Load the investment ring with raw metal. Position the investment ring on the ceramic base. Close the door.

3 Melt

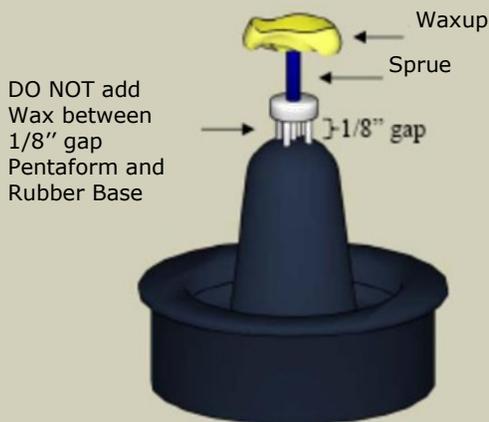
Press the Melt button. The UltraCast will create a vacuum in the chamber and begin heating. Monitor the metal heating through the viewing window. A protective lens is provided to safely view the molten metal. When the metal liquifies, it is ready to cast.

4 Cast

Press the Cast button when the metal liquifies. The UltraCast will automatically cast using argon pressure. When the cast is complete, the platform will lower and the investment can be removed.

Preparing the Mold

1 Spruing



Spruing for the UltraCast is no different than spruing for all other casting systems – with one exception: All sprues **MUST** be attached to the “Pentaform” wax sprue button.

Pentaform: Press the Pentaform down into the rubber base. There must be a minimum 1/8” gap between the bottom of the Pentaform wax sprue button and the top of the rubber sprue base. **DO NOT** add wax between the Pentaform and the rubber base.

Waxup: After placing the Pentaform on the rubber sprue base, attach your waxup with the sprues to the Pentaform.

Spruing Tips: Use hollow sprues whenever possible to decrease the possibility of damaging the investment during burnout. Keep all sprues as short as possible. Always angle waxup toward the outside of the ring. Never have less than 1/4” of investment above your waxup.

2 Investing

Preparation: Carefully paint investment into wax models.

Plastic Ring: Be sure plastic rings are pressed down fully into groove in the rubber sprue base. Keep the inside of sprue formers clean for proper sealing of the ring.

Ring Height: Investment should be more than 1/4” above the wax pattern.

Stiffening Ring: Place the Stiffening Ring prior to pouring or immediately after pouring the investment.

Clean Mixing Bowl: Be sure the mixing bowl is clean prior to mixing the investment. Any trace of contaminants in your investment will diminish its strength.

Evacuate: Evacuate all air using, if it’s necessary (all depends of the investment).

Pour Level: Pour your investment into the ring on a flat and level surface to ensure both ends are parallel.

Pour Investment: Pour slowly into the ring until the level is just beneath the bottom of the Pentaform wax sprue button. Place the ring on a vibrator. Ensure the investment flows between the pins of the Pentaform. Continue pouring until the ring is full.

Curing: Allow investment to sit before removing the investment from the rubber sprue base.(the sitting time depends of the kind of investment)

Remove Ring: After the investment is thoroughly set, remove the rubber sprue base and the stiffening ring. Save for reuse. Carefully cut and discard the plastic ring.



3 Burnout

The burnout process for UltraCast is no different than any other casting system. A two stage burn out is recommended for all rings to be cast in UltraCast.

Place the investment ring upside down in the furnace and follow the investment manufacturer’s burnout recommendations.

If your burnout furnace does not regulate ramp times. Then heat as slow as possible to 600F and increase the hold time to 60 minutes.