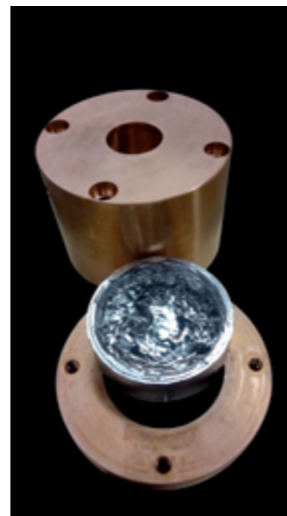
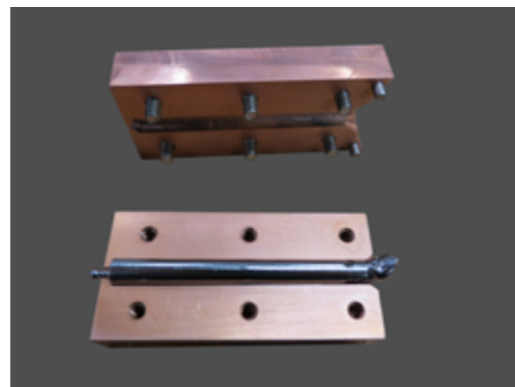
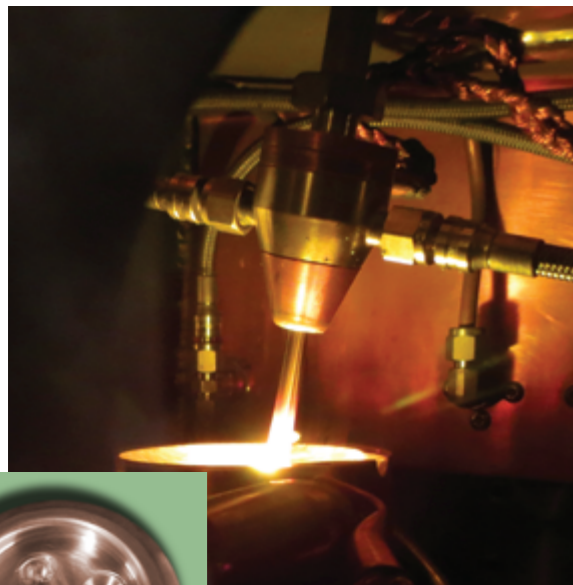


# ARC 200

COLD CRUCIBLE ARC MELTING FURNACE AND CASTING MODULE

Arcast





# ARC 200

COLD CRUCIBLE ARC MELTING FURNACE AND CASTING MODULE

## INTENDED USE

The Arc 200 has been designed to give the operator the ability to melt, alloy and cast, in various modes, approximately 200 grams of steel or equivalent volume of other metals. There is a simple free-fall atomization option.

## CRUCIBLE HEARTH

The standard hemispherical crucible is machined from oxygen-free copper and has a water cooled base. The crucible tilts to allow pouring and is available with multiple spout options. A titanium getter for reducing oxygen is available if needed.

## ARC ELECTRODE

The arc electrode is mounted on a water cooled manipulator with a vacuum feed-through. It has a replaceable 6.35mm dia. thoriated tungsten tip mounted in a copper collet.

## VACUUM CHAMBER

The chamber is of stainless steel plate construction, panel cooled for extended operation. It has a number of standard ports for bolting on multiple options without modification, and two view ports – one in the door and one on top of the chamber.

## VACUUM EQUIPMENT

The base model includes a dual stage vacuum pump with a 3 cfm pumping rate and an ultimate pressure of  $1.1 \times 10^{-3}$  Torr ( $1.6 \times 10^{-3}$  mbar). It includes a manual vacuum valve to control the vacuum in the chamber and to balance a flowing atmosphere if needed. A dial gauge is standard. See options for high vacuum measurement instrumentation and pumps that produce lower ultimate pressures.

## TYPICAL VACUUM PUMP RATES

### Chamber pump-down time, low vacuum option:

$3 \times 10^{-2}$  mbar in less than 20 minutes, typical performance

### Chamber pump-down time, high vacuum option:

$8 \times 10^{-5}$  mbar in less than 40 minutes, typical performance

## POWER SUPPLY

DC arc supply, fan cooled, requires 3 phase or 1 phase power. It has fully variable amperage control.

- 5 - 300 Amp, 1 phase
- 5 - 425 Amp, 3 phase

## CASING AND STAND

The casing is in stainless steel and houses the displays of warning lamps, pressure indicators and all pipe and electrical work. The stand contains the vacuum pump, valves, and water regulation.

## SAFETY SYSTEMS

The arc melter is fully interlocked to prevent any harmful exposure to the operator. The water system has flow, pressure and temperature interlocks to ensure safe operation.

## SYSTEM REQUIREMENTS

### Electrical:

Requires 1 or 3-Phase Power, 208 – 240 VAC, 50/60 Hz, 20 kVA (400 Amp option)

### Water:

7 lpm below 30° C @ 5 bar

### Gas:

Argon or other inert gas

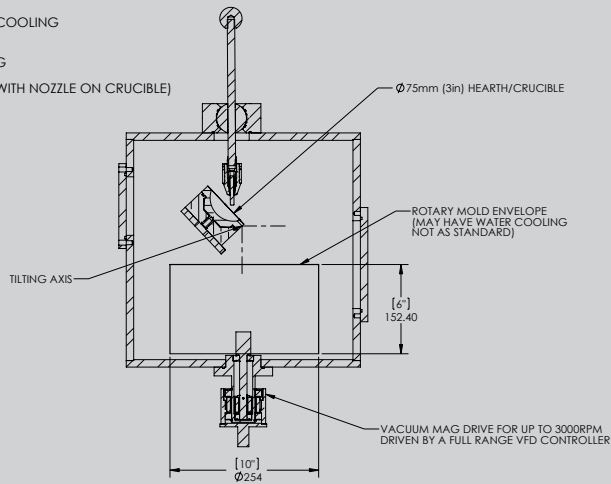
## OPTIONS

- Tilt casting with mold options
- Vacuum casting with mold options
- Centrifugal casting with mold options
- Free-fall gas atomizer (for powder metallurgy)
- Continuous casting (for ingot production)
- Graphite crucible (depending on material being processed)
- High vacuum gauge
- High vacuum turbo pump and controller
- Power supply foot control
- Gas rack
- Water chiller
- Customized spares pack (all systems come with a starter pack)
- Additional custom crucibles

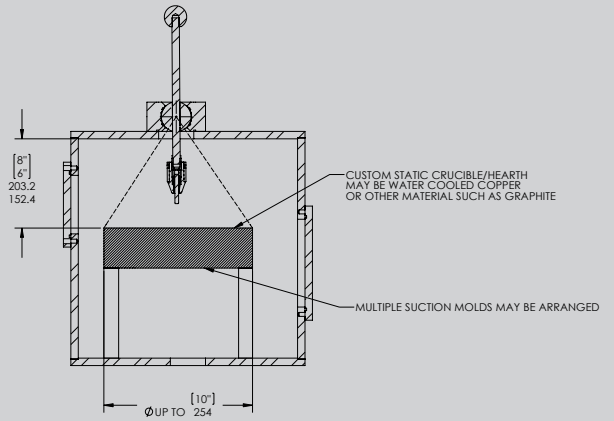
# Some options available for the Arc200

**ROTARY CASTING OPTIONS:**

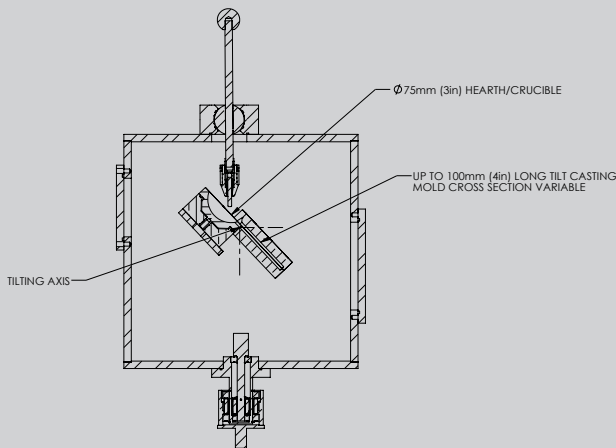
- COPPER DISK FOR RAPID SPLAT COOLING
- TUBE CASTING
- DISK CASTING
- CUSTOM OFF SET MOLD CASTING
- RING CASTING
- WIRE CASTING COOLING DISK (WITH NOZZLE ON CRUCIBLE)



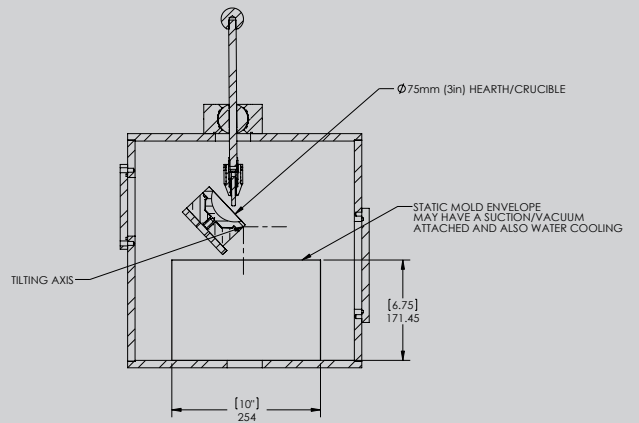
**Arc 200 TILT ROTARY/CENTRIFUGAL MOLD CASTING OPTION**



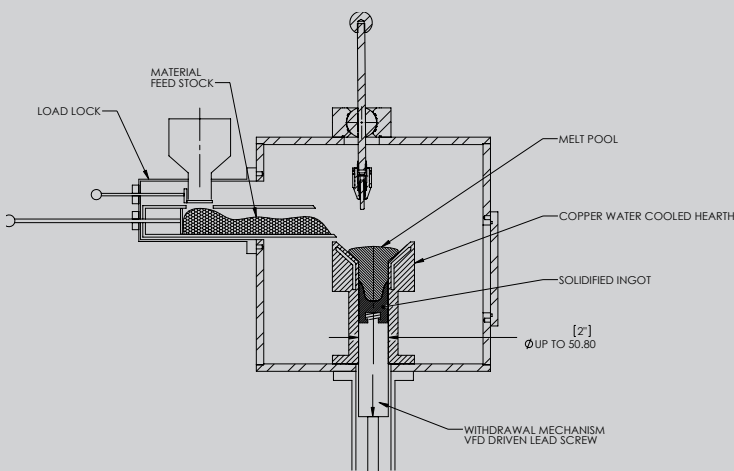
**Arc 200 STATIC CRUCIBLE/HEARTH OPTION**



**Arc 200 TILT CASTING MOLD OPTION**



**Arc 200 TILT CASTING STATIC MOLD OPTION**



**Arc 200 BOTTOM CONTINUOUS CASTING**



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