

ELIMINATE CASTING REJECTS, DRASTICALLY REDUCE FINISHING TIME, IMPROVE QUALITY AND INCREASE YOUR PRODUCTION OUTPUT WITH THE PROVEN



Now LA Approved!



INDUCTO-VAC® 4KW CASTING SYSTEM

THE PERFORMANCE STANDARD

The MEMCO Inducto-Vac Casting System provides precision control of the investment casting process along with high production of perfect castings at a much lower initial cost and much lower operating expenses than any other induction casting machine.

Improve quality and eliminate rejects through precision control of temperature and many process variables.

Reduce finishing time because castings have better definition of contours and detail and better polishing properties than centrifugal castings.

Lower operating costs due to the inherent long life and high efficiency of the solid state heating unit, the very high thermal efficiency of new materials, and the longer life of the refractories.

Increase production because casting is instantaneous - no waiting on a centrifuge, crucible is stationary, insulated and not cooled by spinning. Less heating is required, melting is faster and less energy is used.

All these benefits and more are possible with the MEMCO Inducto-Vac because of the creative technology incorporated into this compact unit.

Induction casting equipment is an investment that will quickly pay for itself in improved, consistent quality and increased production. If you have quality problems and are planning to increase production, investigate other equipment, then come to MEMCO. We build quality and top performance into all our products and we like comparisons with our competitors.

PERFECT CASTINGS

Ceramic Crucibles

The unique MEMCO ceramic crucible offers many advantages over common casting crucibles:

- Completely inert to prevent chemical interaction and contamination of the melt.
- Durable ceramic also has much longer life because it does not oxidize, crumble and fall into melt. It does not leak.
- Bottom pour arrangement allows clean metal to enter the castings first while any dirt goes into the bottom last.
- Bottom pour arrangement assures maximum operator safety in pouring molten metal due to the short distance from crucible to flask.
- Precision orifice controls pour rate to minimize turbulence.
- Electrically transparent ceramic allows metal to be constantly stirred.



Accurate Metal Temperature

Accurate, reliable casting temperature is very important to the process. Some alloys can tolerate only a few degrees error. MEMCO uses an immersion thermocouple in the bottom of the valve rod to directly measure the temperature. This bottom location gives accurate measurement regardless of the amount of metal.

MEMCO makes this pyrometer specifically for use in the Inducto-Vac. Other casting machines use common commercial units not designed for induction fields which results in serious errors.

A horn alerts the operator to have the flask ready to receive metal as it approaches the preselected casting temperature.

Vacuum Casting

This is the ONLY way to provide a uniform force on all metal surfaces. The vacuum eliminates all gases and insures proper filling. Vacuum castings are free from voids, surface roughness and distortion common to the unidirectional force of a centrifuge.



Gas System

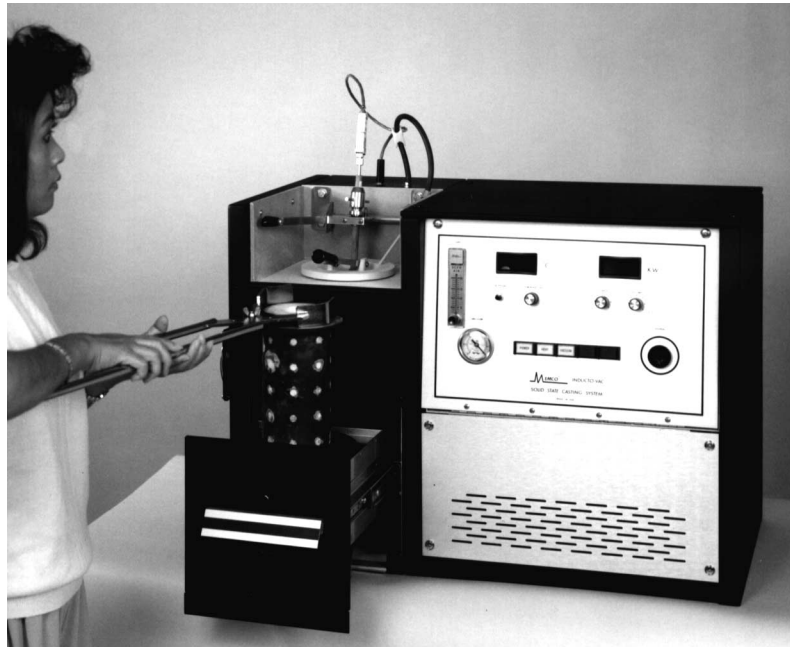
Automatic gas control system assures the melt is protected at all times. Reducing gas will remove oxides from the molten metal as it is stirred by the low frequency currents. Gas system is not pressurized thereby eliminating the gas tight melting chamber and attendant problems.

Heating Unit

- Indirect heating of the unique ceramic crucible/susceptor arrangement eliminates burning the metal.
- Powerful, low frequency currents stir the metal to ensure a homogeneous alloy and assist in removing oxides trapped in the metal.
- Solid state generator provides excellent reliability and long life contrasted to short lived, expensive vacuum tubes.

Summary

This synergistic combination of features of the Inducto-Vac provides far better results than the individual features themselves. Once you have perfect castings, you will find far less finishing is required. This reduction in finishing results in more retention of fine detail, more metal weight and lower labor cost. In addition, this system is smaller, faster and far safer than ordinary casting equipment.



SIMPLE RAPID OPERATION

The completely automatic power control system eliminates complex adjustments. The controls are few and clearly labeled in plain English. Advanced thermal design permits rapid warm up and cool down. Simultaneous melting while previous pour solidifies in flask under vacuum speeds production. The operator can load metal and flasks easily. All these features result in much higher production than other machines.

RELIABLE

The Inducto-Vac give you proven reliability through solid state design using only heavy-duty industrial components. The induction coil is fully insulated to protect against shorts and damage to machine or operator. A reliable, simple, long life vacuum system requires minimum maintenance. This reliability is backed by our **THREE YEAR WARRANTY**.

VERSATILE OPTIONS

The Inducto-Vac has several options to configure a system for your particular requirements.

The shotting/alloying system is a useful option for those wishing to alloy their own gold and make shot.

The standard Inducto-Vac accepts all sizes of flasks up to 5Ø x 9H either standard or perforated. Options can increase the range. The large 13 cu. in. crucible is standard.

ECONOMICAL

The low initial cost for the complete system is only the beginning of economy. Installation and operator training is included. The advanced electrical and thermal designs insure low power consumption and less heating of the casting room. The space saving design and light weight permit the unit to be easily placed anywhere by two men. The Inducto-Vac doesn't require expensive three phase power, compressed air, large external vacuum pumps or expensive thermocouples. The overall economy of operation is a benefit not be overlooked.

PRACTICAL

The Inducto-Vac uses standardized parts for quick replacement. Many parts are available locally since the machine is made in the USA with domestic parts. All parts and supplies are available overnight from the factory. Our staff is ready to help you in all phases of the investment casting process.

The Inducto-Vac is the safest machine on the market. It is designed so that high voltage coils are not exposed, no dangerous centrifuge is used and molten metal is kept safely away from the operator. Electrical power components are UL recognized and it is constructed in accordance with the National Electrical Code of the USA.

INDUCTO-VAC® 4 KW CASTING SYSTEM

Specifications

CRUCIBLE TYPES

Ceramic - for use with any alloy
Graphite - for brass only

CERAMIC CRUCIBLE CAPACITY: 13.2 cu in., 218 cc

MOLTEN METAL CAPACITY:

Fine Gold: 136 Tr oz., 4.27 Kg
Sterling: 75 Tr oz., 2.32 Kg

PERFORATED FLASK OPTION - Vacuum Chamber

Adapter rings furnished for 3½", 4" & 5" diameters
Maximum flask height is 9"
Optional small standard flask adapter

FLASK VACUUM - 29" Hg at sea level, 15cfm standard, other pumps optional

PROTECTIVE GAS - ¼" male hose barb connection

Flowmeter: 0 - 20 cfh (0 - 10 lpm)

TEMPERATURE CONTROL

Sensor: Immersion Thermocouple
Accuracy: 3° C
Resolution: 1° C

TEMPERATURE LIMITS

Medium Temperature - 1250° C
High Temperature - 1700° C

COOLING OPTIONS - ⅜" male hose barb connctions

Single Pass: Requires 1 gpm @ 35 psi (4 lpm @ 2.5 bar)
Recirculating: Power outlet furnished for automatic operation. External recirculating system available as an option

POWER OUTPUT - Operator variable 1 to 4 KW

POWER SUPPLY OPTION - Not field interchangeable.

Domestic (USA): 120/240V, 23A, 1Ø, 60 Hz
International: 230V, 23A, 1Ø, 50 Hz
Furnished with 5 ft. cord & plug (NEMA 10 - 30 P)

DIMENSIONS:

Table Top: 23"H x 34" W x 17½" D (58.5cm x 86cm x 44.5cm)
Floor: 50"H x 34" W x 17½" D (127cm x 86cm x 44.5cm)

WEIGHT:

Actual: 181 lbs. (83 Kg)

NOTE: All options should be specified when ordering.



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