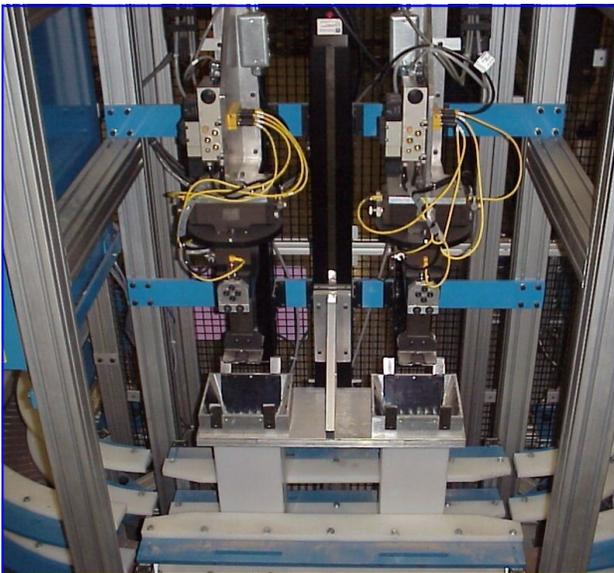
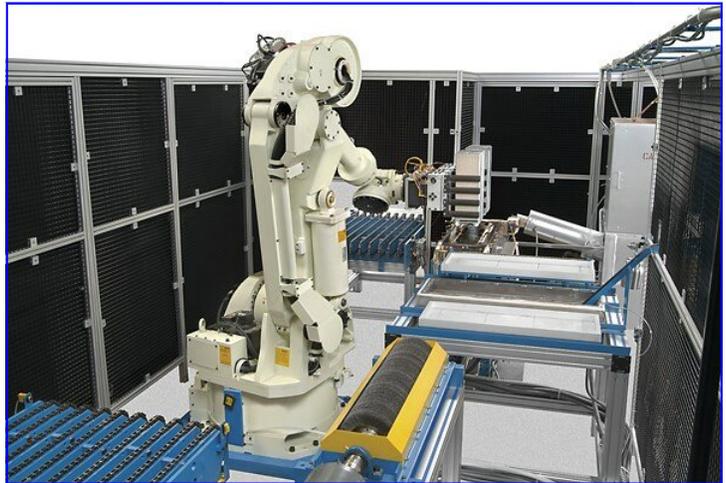


# *MAC Industrial C.O.S.*

***The perfect way to cast your large size industrial cells with efficiency, simplicity, and flexibility.***

The **MAC Industrial C.O.S.** combines efficiency, simplicity, and flexibility not seen before for this type of application. What makes this design special is that we can arrange all the components of this machine in order to fit your plant requirements.

MAC Industrial C.O.S. includes an inlet conveyor which is configured with two lug aligning devices to properly position the cells. The machine uses a robot to pick up the cells coming from the inlet conveyor, positions the cells into the secondary lug aligner, continues over the brushing station, flux/tin/flux station, into the mold, and finally handing the cast cells off in the Case Insertion Station where the cells are lowered into cases. After insertion, the cases are conveyed out of the station and new cases are fed in.



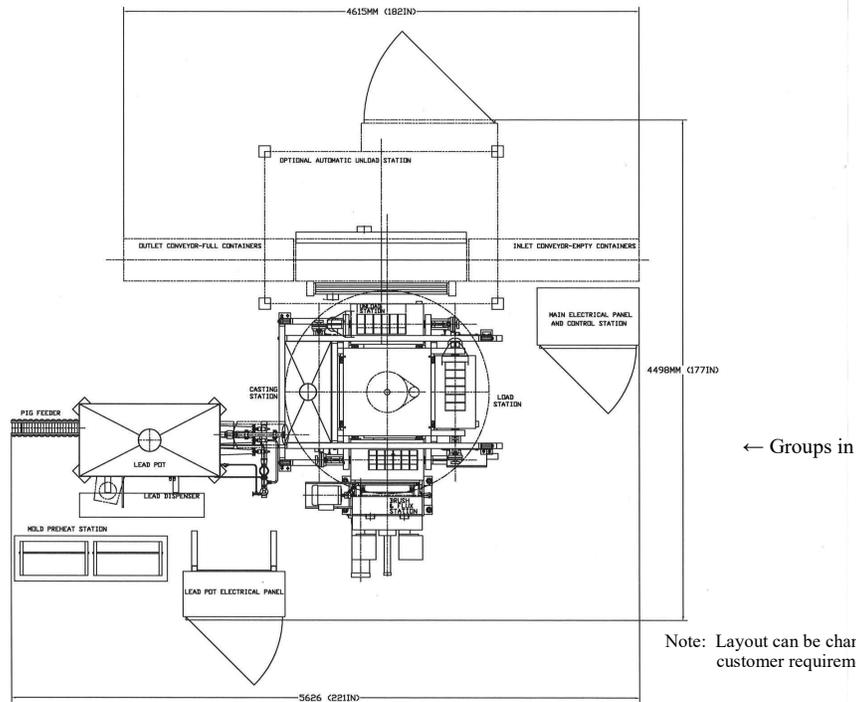
This machine comes with a MAC recommended, customer purchased 300kg (661.5 lb) robot that can handle from 5 plate to 33 plate cells, either one or two at a time. Maximum cell weight that this robot can pick up at one time is approximately 228kg (500 lbs.) (larger or smaller robots can be provided depending on your requirements). Depending on lead configuration and required machine layout, cycle times will range between 1-2 minutes with either one or two cells each cycle. Optional robot tooling changer can reduce change over time.

Also included is one robot tooling head (to handle one or two cells), 1400 kg (3100 lbs.) gas or electric lead pot, complete Safety Cage with easy access doors, and Auto Cell Load into Case Station.

***THE MAC INDUSTRIAL C.O.S., THE PERFECT WAY TO  
CAST YOUR LARGE SIZE INDUSTRIAL CELLS.***

# MAC Industrial C.O.S.

## Technical Specifications



Note: Layout can be changed to meet customer requirements.

### Required User Data:

Specify electrical requirements. Provide drawings of element, element casing, post and straps for use in designing molds.

### Production Cycle Rate:

Operator and battery design dependent (300 - 900 cells/shift)

### Operation Personnel:

One (With double-mold, two operators can increase production)

### Cell Element Size Capability:

(1 cell or 2 cell group holder)

### Complete Machine Set-up and Tooling

	Millimeters	Inches
Height	635 maximum 241 minimum	25 9.5
Width	175 maximum 90 minimum	7 3.5
Stack Thickness	59 maximum 319 minimum	2.341 12.583
Terminal post height:	152 maximum	6.0

**Changeover:** About 60 minutes. (Partial changes as short as 15 minutes.) Automatic Robot tool changer optional.

### Machine Requirements:

**Standard Electrical:** 240/380/480V/3-phase/50-60Hz (other electricals available).  
**Control Voltage:** 24 volt D.C.  
**Information Center:** PLC interfaced with a

color display.

**Tolerance:** +20% of nominal voltage.

**Ventilation:** Customer supplied as required by law.

A minimum of 2700 CFM is typically used. Where protection hoods are used, vent openings are provided.

**Water:** Clean water for mold cooling. Five gallons per minute at 40 psi (minimum) at the mold inlet.

**Compressed Air:** 25 SCFM @ 80 psig minimum.

**Ambient Operating Temperature:** 0°– 45°C (32–113°F).

### Lug Brush:

203 mm (8 inch) diameter wire brush driven by 5 HP motor.

### Flux Tray:

2 flux trays: 3.8 liter capacity (1.0 gallon), Tin bath 11.5 liter capacity (3 gallon)

### Safety Features:

Metal protection guards.  
Load operator safety light beam (beam interference stops machine). [For automatic lug aligner]  
Electrical interlocks.

### Installation Foundation:

Standard 102 mm (4 inch) thick reinforced concrete floor pad required. Holes for lag bolting of equipment to the floor are provided.

### Lead Pot:

**Natural Gas Requirements:** 200 cu. ft./hr @ 6 in. W.C. (5.7 cu. meter/hr. @ 11 mm Hg)

**Propane Requirements:** 80 cu. ft./hr @ 6 in.

	Gas Heated	Electric Heated
Lead Capacity:	1361 kg (3,000 lbs)	1361 kg (3,000 lbs)
Heating Capacity:	196,000 (BTU/Hr) (57.4 kw/hr)	30 KW
Electrical Requirements (all options)	240/380/480V 50-60 Hz 52 KVA	240/380/480V 50-60 Hz 77 KVA
Heat Range: (gas and elec.)	100° to 1000°F (38° to 538°C)	
Insulation:	4 inches (100 mm) of masonry fill insulation	

W.C. (2.3 cu. meter/hr. @ 11 mm Hg).

