

# Welding Copper Steam Pipes at a Brewery

## Application:

- Copper steam coils of mash cooker

## Material:

- 6 & 8 in diameter & 1/4" wall thickness SB-42/GR-122 copper pipe

## Welding Equipment:

### *Power Supply:*

- Model 415

### *Weld Head:*

- Model 15

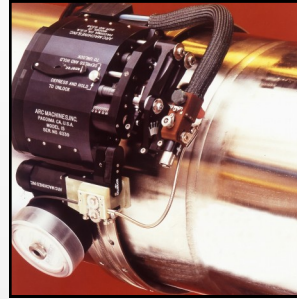
## Benefits:

- ✓ Increased productivity
- ✓ High safety vs. manual welding
- ✓ Reduced weld time by 50%

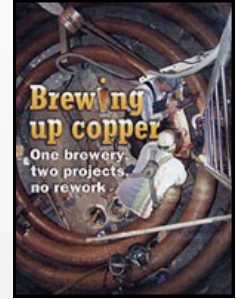
For further information, call AMI at 1-818-896-9556 or e-mail [sales@arcmachines.com](mailto:sales@arcmachines.com)



Model 415



Model 15



When the copper steam coils of a brewery's mash cooker periodically need to be replaced the project presents some unique challenges. Space inside the cooker unit is limited, welding copper requires significant amperage, and the outage time must be as short as possible – little time is allotted for rework.

The traditional method for replacing steam coils in a mash cooker is to weld them in place using manual gas tungsten arc welding (GTAW) and copper backing rings. However, two recent projects showed that the traditional method isn't the only process for replacing steam coils.

### **Project One**

R.L. Bunch Company was contracted to perform the welding portion of a coil replacement project. Each mash cooker had 12 ft, 10 ft, and 8 ft diameter steam coils which were made of 8" or 6" diameter, 1/4" wall, SB-42/GR-122 copper pipe. An AMI **Model 15** weld head and a **Model 415** power supply were chosen to perform the welds with preheat, clearance, and mounting restrictions. The use of automated orbital welding system reduced the weld time, increased productivity, and was safer than manual welding would have been with a 600 °F preheat.

### **Project Two**

When R.L. Bunch Company was again contracted to perform the coil replacement on two mash cooker units, they pre-fitted pipe at the fabrication shop. The on site placement and fit up went much smoother and faster. The 24 hrs workday was reduced to one shift of 12 hrs. The second project was performed without rejects or reworks.

To read the full story, visit [www.arcmachines.com](http://www.arcmachines.com)



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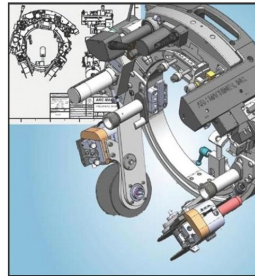
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# AMI

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### M415 Power Supply

## QUICK SPECS

#### Input Power

200 to 575 VAC  
Service, 3-phase  
50/60 Hz

#### Weld Current

5 to 400 A DC  
100% Duty Cycle

#### I/O Devices

2 USB ports  
RS232 serial interface  
data acquisition output  
Ethernet over fiber optic

#### Memory Capacity

Over 1000 weld programs

#### Water Cooler

Included

#### Dimensions

39" x 26" x 36"  
(991 mm x 660 mm x 914 mm)

#### Weight

710 lbs.  
(322 kg)



### M15 Weld Head

#### AVC Stroke

1.75" (44,45 mm)

#### Torch Oscillation Stroke

2" (50,8 mm)

#### Wire Feed Speed

5 to 200 IPM

#### Radial Clearance Range

3.69" (93,73 mm) (Minimum)  
depends on pipe diameter,  
torch type and configuration

#### Axial Clearance Range

11.5" (292,1 mm) (Minimum)  
depends on torch type and options

- Single or dual wire feeder options are available
- Several torch types are available

