

# HELLER INDUSTRIES, INC.

## Heller Reflow Oven Specifications

Model	1913 MARKIII (Air)	1913 MARKIII (Nitrogen)
<b>Electric Supply</b>		
Power Input (3 Phase) Standard	480 volts	480 volts
Breaker Size	100 amps @ 480v	100 amps @ 480v
kW	9.5 - 13.5 Continuous*	9.5 - 13.5 Continuous*
Typical Run Current	30 - 35 amps @ 480v	30 - 35 amps @ 480v
Optional Power Inputs Available	208/240/380/400/440/415 VAC	208/240/380/400/440/415 VAC
Frequency	50/60 Hz	50/60 Hz
Sequential Zone Turn On	S	S
Single Phase Operation	Not Available	Not Available
<b>Dimensions</b>		
Overall Length	232" (589 cm)	232" (589 cm)
Overall Width	54" (137 cm)	54" (137 cm)
Overall Height	63" (160 cm)	63" (160 cm)
Typical Net Weight	3500 lbs. (2041 kg)	4500 lbs. (2041 kg)
Typical Shipping Weight (Domestic)	4000 lbs. (2268 kg)	5000 lbs. (2268 kg)
Typical Shipping Weight (Export)	4500 lbs. (2495 kg)	5500 lbs. (2495 kg)
<b>Computer Control</b>		
AMD or Intel Based Computer	S	S
Recipe Storage	> 500	> 500
Flat Screen Monitor	S	S
Windows Operating System	Windows XP®	Windows XP®
Monitor mount	S	S
Auto Start Software	S	S
Data Logging	S	S
Password Protection	S	S
LAN Networking	O	O
<b>Inert Atmosphere</b>		
Minimum PPM Oxygen	-	10-25 PPM
Nitrogen Cooling	-	S
Waterless Cooling w/ Flux Separation System	-	O
Nitrogen On/Off Valve	-	O
Oxygen Monitoring System	-	O
Nitrogen Standby System	-	O
Sample Port in Reflow	-	S
Typical Nitrogen Consumption	-	500 - 700 SCFH **
<b>Additional Features</b>		
KIC / ECD Profiling Software	S	S
Signal Light Tower	S	S
Powered Hood Lift	S	S
Five (5) Thermocouple Profiling	S	S
30" Heater Modules	O	O
Redundant Alarm Sensors	O	O
Independent Alarm Scanner	O	O
KIC Profiler / ECD Profiler	O	O
Center Board Support	O	O
Board Drop Sensor	O	O
Board Counter	O	O
Bar Code Reader	O	O
Custom Paint & Decal	O	O
Battery Backup for Conveyor and PC	O	O
GEM/SECS Interfacing	O	O
Custom Engineering and Software	Available	Available

\* Varies depending on Options included with the oven

\*\* Tested at 500 PPM. Varies with PCB size and oven configuration

*Specifications Continue on Reverse*

# HELLER INDUSTRIES, INC.

## Heller Reflow Oven Specifications (Continued)

Model	1913 MARKIII (Air)	1913 MARKIII (Nitrogen)
<b>Mesh Belt Conveyor</b>		
Height From Floor	35.5" ± 2.0" (90 cm ± 5 cm)	35.5" ± 2.0" (90 cm ± 5 cm)
Maximum PCB Width	20" (50.8 cm)	10" (25 cm) 15" (38 cm) 18" (46 cm)
** Requires 30" Heater Modules	24" (61 cm)**	20" (50.8 cm) 24" (61 cm)**
Space Required Between PCB's	0.0" (0.0 cm)	0.0" (0.0 cm)
Conveyor Length On-Load	18" (46 cm) *	6" (15 cm) *
Conveyor Length Off-Load	18" (46 cm) *	6" (15 cm) *
Heated Tunnel Length	140" (355.6 cm)	140" (355.6 cm)
Process Clearance Above Mesh Belt	2.3" (5.8 cm)	2.3" (5.8 cm)
Mesh Belt Pitch	0.5" (1.27 cm)	0.5" (1.27 cm)
Maximum Conveyor Speed	74"/Min (188 cm/min.)	74"/Min (188 cm/min.)
Conveyor Direction Left to Right	S	S
Conveyor Direction Right to Left	O	O
Conveyor Speed Control Type	Closed Loop	Closed Loop
<b>Edge Hold Conveyor System Option</b>		
Height from Floor – Standard	37.0" ± 2.0" (94 cm ± 5 cm)	37.0" ± 2.0" (94 cm ± 5 cm)
Height from Floor – Optional	32.6" +3.9" / - .4" (83 cm + 10 cm / -1 cm)	32.6" +3.9" / - .4" (83 cm + 10 cm / -1 cm)
Clearance Above Conveyor Pins	1.15" (2.9 cm)	1.15" (2.9 cm)
Clearance Below Conveyor Pins	1.15" (2.9 cm)	1.15" (2.9 cm)
Length of PCB Support Pins	.187" (4.75 mm)	.187" (4.75 mm)
3 mm long support pins	O	O
Minimum/Maximum Board Width	2.0" – 18" (5 – 45.7 cm)	2.0" – 18" (5 – 45.7 cm)
** Requires 30" Heater Modules	22" (55.8 cm)**	22" (55.8 cm)**
Edge Hold Rail Heaters	Not Required	Not Required
Power Width Adjustment	S	S
Computer Controlled Width Adjust	O	O
Auto Lubrication System	S	S
<b>Forced Convection Zones</b>		
Top	13	13
Bottom	13	13
Heater Type	Instant response open coil	Instant response open coil
Heater Material	Nichrome	Nichrome
Profile Change Time	5 – 15 minutes	5 - 15 minutes
<b>Temperature Control</b>		
Accuracy of Temperature Controller	± .1°C	± .1°C
Cross-Belt Temperature Tolerance	± 3.0°C	± 3.0°C
Heater Wattage Per Zone	6000 w	6000 w
Temperature Range Standard	25-350°C	25-350°C
High Temperature Up to 400°C	O	O
High Temperature Up to 450°C	O	O
Insulation Type	Calcium Silicate	Calcium Silicate
UV Cure	O	O
<b>Cooling Systems</b>		
Number of Cooling Zones Standard	4	4
Additional Cooling Zone (External)	O	O
Water Cooling	-	O
Waterless Cooling	-	O

**Notes:** S = Standard, O = Optional. \* A 12" (30 cm) Conveyor extension is an available option  
 A continuous program of product improvement may result in changes to specification and performance.  
 The right is reserved to institute these improvements without notice or liability.

*Specifications continue on reverse.*

## HELLER

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**At the leading edge of electronic assembly**

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