

AG Associates Heatpulse 8108 Specifications

SemiStar Corp – Your Trusted Partner for AG Associates Heatpulse RTP Systems

Looking for a reliable source for your aging AG Associates Heatpulse 4100, 4108, 8108, 8800, or 8800i Rapid Thermal Processors? SemiStar Corp is the go-to expert for refurbished equipment, genuine OEM spare parts, and professional service.

We maintain extensive inventory of used RTP systems and original parts, and our engineers have over 25 years of hands-on experience servicing AG Associates Heatpulse tools. Still relying on non-specialized vendors? Frustrated by unstable equipment or inconsistent processes caused by second-source parts? Stop chasing problems on your own.

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8108.1 OPERATING SPECIFICATIONS

The following are the operating specifications for the Heatpulse® 8108 system.

- **Wafer handling:** automatic serial processing, using standard cassettes.
- **Throughput:** Process dependent, approximately 80 wafers per hour (in a null cycle) without flat-finder.
- **Wafer sizes:** 5 inches, 6 inches, and 8 inches (standard).
- **Ramp-up rate:** Programmable, 1 - 180°C per second.
- **Steady-state duration:** 1 - 600 seconds per step.
- **Ramp-down rate:** Programmable, 1 - 180°C per second. Ramp-down rate is temperature and radiation dependent, maximum 150°C per second.
- **Recommended steady-state temperature range:** 400 - 1200°C.
- **ERP temperature accuracy:** +3°C to -7°C, when calibrated against an instrumented thermocouple wafer (ITC).
- **Temperature repeatability:** $\pm 3^\circ\text{C}$ or better at 1150°C wafer to wafer. (Repetition specifications are based on a 100-wafer set.)
- **Temperature uniformity:** $\pm 5^\circ\text{C}$ across an 8-inch wafer at 1150°C. (This is a 1-sigma deviation from 100-angstrom oxide uniformity.) For a titanium silicidation process, no more than 1.5 percent increase to uniformity during the first anneal at 650 - 700°C.

8108.2 PHYSICAL DIMENSIONS

- **Width** Monitor-Fab-Wall configurations: 40 in. (102 cm)
Monitor-Side-Panel configurations: 60 in. (152 cm)
- **Depth** 42 in. (107 cm)
- **Height** 82 in. (208 cm)
- **Weight** Monitor-Fab-Wall configurations: 1800 lbs (816 kg);
Monitor-Side-Panel configurations: 1840 lbs (835 kg)
- **Shipping weight** Monitor-Fab-Wall configurations: 2000 lbs (907 kg);
Monitor-Side-Panel configurations: 2040 lbs (925 kg)

8108.3 UTILITY REQUIREMENTS

Utility requirements include:

- **Power** Standard Domestic: 208 VAC, 60 Hz; 125 A maximum;
3-phase plus ground and neutral

European: 400 VAC, 50 Hz; 90 A maximum;
3-phase plus ground and neutral

Japanese: 200 VAC, 50/60 Hz, 125 A
maximum; 3-phase plus ground
- **Water Type (Recirculator)** Refer to the 8108 facility manual

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8108.4 FACILITY CONNECTIONS

The following table is a summary of the facility connections for the Heatpulse 8108 system:

Table A-1. Facility Connections

UTILITY	SERVICE SIZE	CONN. TYPE
Tube Cooling CDA or Utility N2 Valve Actuation CDA or Utility N2	1/2 inch 1/4 inch	Swagelok Swagelok
Cooling Water Supply Cooling Water Return	1/2 inch 1/2 inch	Swagelok Swagelok
Gas Box Exhaust	4-inch OD	Duct
Cooling Exhaust Scavenger Hood Exhaust Containment Exhaust (Optional)	2-inch OD 2-inch OD 2-inch OD	Duct Duct Duct
OR		
Exhaust Manifold Outlet	3-inch OD	Duct
Process Gas Exhaust (Scrubber)	3/8 inch	VCR, Male
Process Gas Supply	1/4 inch	VCR, Female
Recirculator Water Supply Recirculator Water Return	1/2 inch 1/2 inch	Swagelok Swagelok

8108.5 UTILITY SPECIFICATIONS

The following table is a summary of the utility specifications for the Heatpulse 8108 system:

Table A-2. Utility Specifications

UTILITY	FLOW RATE			PRESSURE		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
CDA or Utility N2 (Cooling) CDA or Utility N2 (Valve Act.)	35 SCFM <1 SCFM	40 SCFM <1 SCFM	45 SCFM <1 SCFM	80 psi 80 psi	90 psi 90 psi	100 psi 100 psi
Cooling Water Supply Cooling Water Return	3 GPM 2.5 GPM	3.5 GPM 3 GPM	4 GPM 3.5 GPM	30 psi 20 psi	40 psi 30 psi	60 psi 40 psi
Gas Box Exhaust	0 SCFM	100 SCFM	150 SCFM	.5" H ₂ O	.75" H ₂ O	-----
Cooling Exhaust Scavenger Hood Exhaust Containment Exhaust (Optional)	25 SCFM 20 SCFM 0 SCFM	30 SCFM 25 SCFM 0 SCFM	40 SCFM 30 SCFM 2 SCFM	.5" H ₂ O .5" H ₂ O .5" H ₂ O	.75" H ₂ O .75" H ₂ O .75" H ₂ O	----- ----- -----
OR						
Exhaust Manifold Outlet	45 SCFM	55 SCFM	72 SCFM	.5" H ₂ O	.75" H ₂ O	-----
Process Gas Exhaust (Scrubber)	20 SCFM	20 SCFM	20 SCFM	1" H ₂ O	2" H ₂ O	2.5" H ₂ O
Process Gas Supply	20 SCFM	20 SCFM	20 SCFM	20 psi	30 psi	55 psi
Recirculator Water Supply	3 GPM	5 GPM	7 GPM	40 psi	50 psi	60 psi

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