

Process One™ HTC 8030 Cleaning System

A safe and reliable cleaning system with built-in flexibility

[Introduction](#) | [Process Cycles](#) | [Compatible Products and Throughput](#) | [Options](#) | [Specifications](#) | [Water Heater Specifications](#) | [Facilities Requirements](#)



The Entegris Advantage

Entegris is the only company manufacturing device and substrate handling products plus the systems to clean them. The entire product line is engineered to work together.

Our materials integrity management expertise combined with our extensive knowledge of product cleaning has enabled us to create an optimal cleaning system.

The Process One™ HTC 8030 Cleaning System is one component of Entegris' unique materials integrity management solution to cost effectively manage silicon or disk drive components from production to consumption. For silicon management, it's Silicon Delivery™ Systems and Services; for disk drive components, it's Disk Delivery™ Systems and Services. Each program brings together products, systems and services into a customized, coordinated package that works for you.

Flexible Configuration

By utilizing specifically engineered process racks, the Process One™ HTC 8030 cleans and dries products from small 2" chip trays to large 300 mm fousps. Switching from one type of product to another is easy. Just drop in a different rack and start the cleaning process.

Easy-to-use touch screen controls provide status information and allow operators to select process recipes, which can be customized and stored for future use.

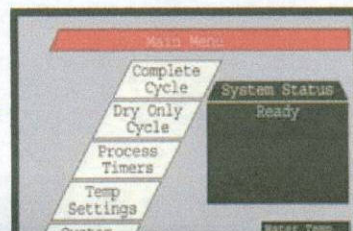


Exceptional Cleaning Performance

The HTC 8030 provides excellent cleaning performance utilizing a spray process that yields consistent results and avoids contamination carry-over seen in immersion cleaners. The optional Halar process chamber, along with high purity PFA fluid handling components, eliminate metallic particle contamination found in less robust systems.

Simple Operation

To operate the HTC 8030, simply load your handling products onto specially configured process racks, open the process chamber door, insert the racks, and close the chamber door. Using touch screen controls, select the appropriate recipe and start the cycle. The touch screen provides status information throughout the computer-monitored process until the cycle is complete. The touch screen also provides an interface for other operator functions, including passcode protection of machine settings, process recipe storage and automatic



monitoring or maintenance schedules.

Low Cost of Ownership

Entegris cleaning systems offer the lowest total cost of ownership by:

- Minimizing process supervision leading to better time management
- Providing high throughput per unit area
- Lowering utility consumption (electricity, DI water, CDAN₂)
- Providing exceptional reliability
- Being engineered with high value components and ultrapure materials
- Offering an attractive purchase price

Process Cycles

The HTC 8030 process consists of separate cleaning and drying cycles. In the cleaning cycle, products are sprayed with a cleaning media and rinsed to remove particulate contamination. In the drying cycle, products are thoroughly dried by a combination of both pressurized and heated air.



Cleaning Cycle

The cleaning media solution of filtered DI water and optional surfactant flows through the HTC 8030's PFA piping system. It is dispensed onto the parts through spray arms located at both the top and bottom of the process chamber. This solution removes particle contamination from the products. The cleaning cycle consists of a high pressure wash followed by a spray mist and two high pressure rinses. The duration of each cycle is user selectable.

Drying Cycle

Low pressure heated air is filtered and recirculated through the chamber during the drying cycle. Programmable rotating air knives provide a sweeping effect across the product using ambient temperature nitrogen or compressed air to dissipate moisture. The recirculated heated air, combined

with the air knives, provide an effective and safe method for removing any residual water from the previous wash/rinse steps.

Cooldown Cycle

A cooldown cycle is employed at the end of the drying cycle to dissipate excess heat before the chamber opens.

Compatible Products and Throughput

The HTC 8030 can be used to clean a wide range of products, including:

- Wafer carriers and shippers
- Storage boxes
- Pods (FOUP, FOSB and SMIF)
- Disk carriers and shippers
- Bare die trays and accessories
- Mask and reticle products

Throughput varies based on the type of product being cleaned and the rack used. Contact Entegris for specific throughput information.

Options

By utilizing the following options, the HTC 8030 can be configured to meet your specific application requirements.

Process Chamber Options

- Halar[®] material
- 316 Electropolished stainless steel

DI Water Heater Options

- External, Teflon®
- Internal, 316L Stainless Steel/Incoloy®
- None

Process racks

- Product-specific racks for optimal performance and throughput

Preventative maintenance contracts

- Maintain optimum system performance by using Entegris trained service engineers

HTC 8030 Specifications

Standard Compliance

- CE
- SEMI® S2, S8 (self assessment)
- UL (field label)

Approximate consumption per 30-45 minute process cycle

- DI water: 12.5 gallons (47.4 l)
- CDA/N₂: 1200 ft³ (34 m³)
- Energy: 5.4 kWh
- Surfactant: 0.23 oz (6.8 ml)

Overall size

- Width: 52" (131.9 cm)
- Depth: 48" (122 cm)
- Height: 73" (185.4 cm)

Approximate weight

- 1300 lbs (590 kg)

Shipping package specifications

- Weight (w/tool): 1,600 lbs (726 kg)
- Crate size: 106" × 48" × 88"

Internal Water Heater Specifications (optional)

- 316L Electropolished stainless steel reservoir

Capacity

- 8 gallons (30 liters)

Heating element

- 13.5 kWh Incoloy® material

DI Water

- Inlet DI water temperature can be a minimum of 15°C

External Water Heater Specifications (optional)

- Must be located within 25' (7.6 m) of the machine
- Available at 480 VAC only, transformer optional for other voltages

Cold DI Supply

- Line: 3/4" (19 mm) Flaretek® fitting or 3/4" (19 mm) MNPT fitting
- Flow rate and pressure: 2-6 gpm @ 20-50 PSIG (7.6-22.7 l/min @ 138-345 kPa)
- Temperature: Inlet DI water temperature can be a minimum of 15°C

Hot DI Outlet

- Line: 3/4" (19 mm) Flaretek® fitting or 3/4" (19 mm) MNPT fitting

Over-Pressure Relief Drain Port

- Line: 1/2" to 3/4" (13 mm to 19 mm) Flaretek® fitting or 1/2" to 3/4" (13 mm to 19 mm) MNPT fitting
- Inlet temperature: 30 PSIG (211 kPa) minimum

Over pressure drain

- 1/2" to 3/4" Line (13 mm to 19 mm)

Electrical systems control

- 80/60A @ 480/380 VAC / 3 phase 50-60 Hz
- Four wire service, (L1, L2, L3 and ground)
- Operating at 380/400 VAC will lower heater output

Electrical conduit

- Supplied with 25' (7.6 m)

Overall size

- Width: 39" (99 cm)
- Length: 13" (33 cm)
- Height: 37" (94 cm)

Approximate weight

- Empty: 200 lbs. (100 kg)
- Full: 260 lbs. (118 kg)

Facilities Requirements

The HTC 8030 offers simple and convenient facilities hookup, reducing installation costs.

Electrical Service Options

Voltage Option	Applied 3 Phase Power	Total System Current Rating	
		External Heater Option	Internal Heater Option
HTC 8030-XX-1	200/208 VAC, 50-60 Hz	66 Amps	106 Amps
HTC 8030-XX-3	380/400 VAC, 50-60 Hz	43 Amps	68 Amps
HTC 8030-XX-4	480 VAC, 50-60 Hz	34 Amps	54 Amps

NOTE: The above listed current ratings are the result of the summation of all branch circuit breaker ratings. Circuit breaker ratings are approximately 125% of actual current values.

CDA (solenoids)

- Line: 1/4" (6.4 mm) O.D. push-to-connect fitting
- 60 PSIG minimum/125 PSIG maximum @ 1 SCFM (414-862 kPa @ 28 l/min)

CDA/N₂ (process air)

- Line: 1/2" ID (12.7 mm) FNPT connection
- Minimum regulator orifice size 1/2" (12.7 mm)
- Maximum pressure: 125 PSIG
- Minimum flow during operation:
(air knife operation)
40 SCFM @ 40-45 PSI
(1.13 m³/min @ 276-310 kPa)

DI water

- Line: 3/4" O.D. (19 mm) Flaretek®
- 2-6 GPM @ 20-50 PSIG (7.6-22.7 l/min @ 138-345 kPa)

Exhaust

- Duct: 4" (102 mm)
- Flow from machine: 100 SCFM (2.83 m³/min)
- 60°C Maximum exhaust temperature

Drain

- Line: 2" (51 mm) FNPT
- 10 GPM (38 l/min)
- P-trap required
- 70°C Maximum exhaust temperature

Silicon Delivery™ and Disk Delivery™ Systems and Services

Utilizing our systems and services capabilities, Entegris will work with you to develop a coordinated package to optimize wafer and device handling or disk drive component handling within your facility.

- A variety of shipping, handling and processing products
- Handling product cleaning systems
- Certified reuse and recycle programs
- Supply and logistics management
- Product cleaning
- On-site and off-site programs

See [WaferCare™ Services](#) for more information.

 [Top of Page](#)



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