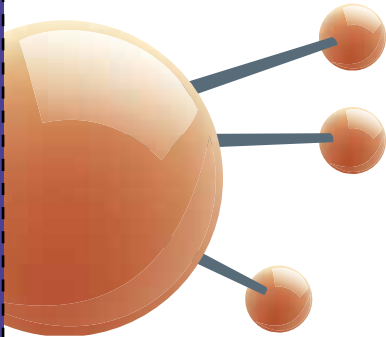




Candi™



A continuous dispenser for advanced low vapor pressure precursors that are used with your deposition processes.

The Candi system is designed to provide end users with a continuous supply of a low vapor pressure liquid precursor (>1 Torr) delivered at a steady pressure.



→ Applications

Typical applications: liquid precursor supply to Direct Liquid Injection (DLI), on-board bubbler or vaporizer and on-board buffer canister.
Varied examples of possible precursors:

- BPSG processes: TEOS, TEPO, TEB...
- Low-k dielectrics: 4MS, TMCTS, OMCTS, DMPS, BCHD...
- High-k dielectrics: DMAI, TDMAS, 4DMAS...
- Low-T SiN/SiO: HCDS, SAM.24TM, BTBAS...

→ Operation

Pressurized helium is used to transfer a precursor from the shuttle canister to an internal day tank and from this day tank to the tool. The day tank allows for the continuous dispensing of the chemical during a shuttle canister change-out.

The patented Candi purge, which uses gas compression and expansion cycles, ensures a safe shuttle canister change-out and prevents the contamination of a supplied precursor often very sensitive to air and moisture.



Other patented features, such as the back-up distribution mode, the day tank level control and the empty shuttle canister detection technique for maximum chemical use, ensure a reliable & cost saving distribution of the precursor to the process.

→ Qualification

The Candi is qualified by most tool manufacturers for 300-mm processes:

- Referenced on multiple OEMs platforms
- Pre-defined interfacing with multiple OEMs



Product description

Features

- Precise delivery pressure control (± 50 mbar) for the most demanding applications
- System adapts to any SEMI-compliant shuttle canister up to 40L
- 8L day tank
- Patented back-up mode for improved reliability
- Smart Empty Control for maximal chemical usage
- Chemical purge sequence validated with live chemicals
- PLC based technology with 10" color touch screen
- Ethernet communication port for SCADA monitoring
- Customized signal interface

Options

- On-board vacuum pump
- On-board degassing device
- Pigtails heating
- Up to 4 on-board outlet processes
- Valves Manifold Box (VMB) for distribution to multiple points of use
- Different communication protocols available
- Start-up and operator training

Reliability

- MTBF*: 8,760 hours
 - Uptime: 99.98%
- *Mean Time Between Failure*

Safety features

- Fully automatic distribution and canister change-out sequences
- Easy to reach "Emergency Machine Off" button
- Standard exhaust flow alarm
- Optional fire and gas detection alarms
- Leak detection
- Open door detection
- Individual pressure switch and relief valve on N₂ and He pressurized lines
- Timers for pressurization/depressurization of each tank, for day tank refill
- Precise alarm messages
- Operator intervention reduced to a minimum
- Multi-level password protection to restrict access to critical functions

Technical specifications

Utilities requirements

He	7 barg, UHP, 1 Nm ₃ /h
N ₂	7 barg, UHP, 10 Nm ₃ /h
Pneumatics	7 barg, 5 Nm ₃ /h
Exhaust	< 2 Torr
Vacuum	110-240 VAC, 50/60 Hz
Power	UPS, 110/240VAC, 50/60Hz, 1kVA

Process data

Chemical maximum flow rate: 1 slpm when working at Candi maximum pressure of 5 barg

Certifications

CE Mark
SEMI S2 certified
Atex zone 2 for process compartment

Contacts

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