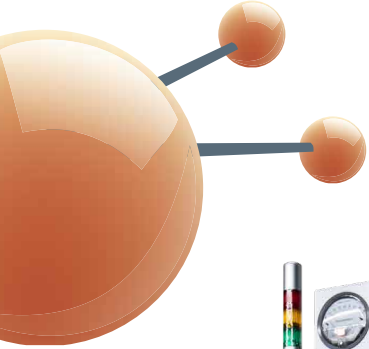


# Candi™



The Candi™ system is designed to provide end users with a continuous supply of a low vapor pressure liquid precursor delivered at a steady pressure. It improves safety, reliability and stability of the delivery process.



## Applications

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

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 inert gas is used to transfer from the canister to an internal process tank and from this process tank to the tool. The process tank allows the continuous dispense of the chemical during a canister change-out.

The patented Candi purge, which uses gas compression and expansion cycles, ensures a safe canister change-out and prevents precursor from contamination.



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

## Qualification

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

- Referenced on multiple OEMs (Original Equipment Manufacturers) platforms,
- Pre-defined interfacing with multiple OEMs.

## Key benefits

- ✓ **Improved footprint to minimize cost of ownership: 525 x 450mm,**
- ✓ **High flow degas unit able to provide a flow rate up to 240sccm,**
- ✓ **New vacuum detection options available for more reliable purge,**
- ✓ **Enhanced safety with integrated liquid trap to protect the vent line from any chemical release,**
- ✓ **User-friendly new controllers,**
- ✓ **Use of N<sub>2</sub> as purge gas to minimize cost of use.**

## Product description

### Features

- 8L or 20L process tank,
- Precise delivery pressure (up to  $\pm 25$ mbar),
- Adaptable to any SEMI-compliant shuttle canister up to 40L,
- 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 12,1" color touch screen HMI,
- Ethernet communication port for SCADA monitoring,
- Customized signal interface.

### Options

- Baratron®,
- 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,
- Innovative solvent flush purge,
- Dedicated pyrophoric solution,
- On-board bubbler,
- Start-up and operator training.

### Reliability

- MTBF\*: > 15,000 hours
- Uptime: 99.99%

\*Mean Time Between Failure

### Safety features

- Liquid trap on the vent line,
- 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 N<sub>2</sub> and He pressurized lines,
- Timers for pressurization/depressurization of each tank for day tank refill,
- Precise alarm messages,
- Reduced operator intervention,
- Critical functions protected by multi-level password.

## Technical specifications

### Utility requirements

Helium	7 barg, UHP, 1Nm <sup>3</sup> /h
Nitrogen	7 barg, UHP, min-max: 3-10 Nm <sup>3</sup> /h
Pneumatics	7 barg, min-max: 2-5 Nm <sup>3</sup> /h
Exhaust	150 Nm <sup>3</sup> /h
Vacuum	<2 Torr (optional on-board vacuum pump)
Power	110-240 VAC, 50/60 Hz UPS, 0,6kVA + 0,1kVA

### Process data

Liquid chemical maximum flow rate: up to 1 slpm when working at Candi™ maximum pressure of 5 barg.

### Certifications

- CE Mark,
- SEMI S2 certified,
- Atex zone 2 for process compartment,
- UL compliant & ASME (optional).



## Contacts

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