



Downstream Solutions Questionnaire

We would like to gather as much information as possible before recommending heaters, traps, valves or other components to improve PM intervals or reduce particle contamination on semiconductor process equipment. With the answers to the attached questions we will be better able to make a recommendation based on your specific process requirements. Please provide an overall drawing of the system so we may see how it is configured and what clearance issues we may have. Any drawings/sketches/pictures you could provide would be helpful. A rough line drawing is adequate. Please specify tubing diameters, and flange type(s).

Company: _____ Contact: _____

Phone number: _____ Fax: _____ e-mail: _____

Process: _____

Total Flow (sccm): _____

Process By-products: _____

Process Pressure: _____

Foreline Pressure: _____

Current PM Interval: _____

Customer Goal(s): Increase PM to: _____ Reduce Wafer Defects by: _____%. Other: _____

What component(s) require cleaning most frequently?

Component:	Frequency
Outlet of the chamber?	_____
Foreline?	_____
Throttle valve?	_____
Condensation (water) trap?	_____
Particle trap?	_____
Components downstream from trap?	_____
Pump?	_____
Pump Exhaust?	_____
Existing Traps:	_____

1. Existing Condensation Trap Type(s): _____ Mfg/Model: _____

_____ Water

_____ Other

2. How often does the condensation trap need to be cleaned? _____

Is there a lack of throughput at that time? _____

Is the trap no longer removing by-product, so that downstream components are getting dirty? _____

3. Where is the buildup in the existing condensation trap? _____

Is it evenly deposited on the trapping surfaces? _____

If not, where is the majority of the accumulation? _____



4. What form is the by-product in? _____

_____ Crystalline

_____ Powder

_____ Sludge

5. How is the condensation trap cleaned? _____

6. If the existing trap is a water trap, what coolant is used in the trap? _____

_____ House water?

_____ Chilled water?

_____ Refrigerant?

7. Do by-products appear in components downstream from the trap?

8. Where is the throttle valve located in relationship to the condensation trap?

_____ Upstream?

_____ Downstream?

Particle Trap

1. Is there a particle trap? Mfg./Model: _____

2. How much by-product is the particle trap collecting? _____

3. What is the filter element? _____

_____ Fiberglass?

_____ Polyester?

_____ SS guaze?

_____ What Micron rating?

4. How often does the existing particle trap need to be cleaned? _____

5. Do by-products appear in components downstream from the trap? _____

Heater Jackets

1. Are heater jackets being utilized? _____

2. If so, at what temperature and where? _____

3. Heater control type(s): _____

_____ PID

_____ Thermostat

4. Is there by-product in the heated lines or components? _____



Throttle Valve

- 1. What kind of throttle valve and controller are used (mfg. & model)? _____
- 2. Is the valve heated? If so, to what temperature? _____
- 3. Please describe any reliability or pressure control performance issues you may have. _____

- 4. Would faster time to set point and/or tighter control band performance be an advantage to you? _____
- 5. Please list the pressure range and flow range used in pressure control. _____
- 6. Does your process have sudden pressure or flow step transitions? If so, between which points and within what typical time window?

Pump

- 1. What kind of pump is used? Mfg./Model: _____
- 2. Does by-product accumulate in the pump? _____
- 3. How often does the pump require rebuilding? _____

Particle Defects

- 1. Do you get particle backstreaming? _____
- 2. If so, when does the backstreaming start? _____
 _____ When the valve is opened initially for pump down?
 _____ After deposition occurs in the trap?
- 3. Is a soft start bypass used on the system during pump down? _____

Other Comments and Information _____

Please fax this form to us along with a sketch of your system to 1-530-842-9130.
Call 1-800-824-4166 for technical assistance.