



Ultra High Purity Liquid Delivery Systems

High level of technical design

INTRO

Numerous semiconductor and photovoltaic manufacturing processes use source media available only in liquid phase. Sourcing and distribution systems for a safe and fully automated supply of processes with UHP liquid chemicals are part of our SVDeli product line. The key elements which guarantee safety, reliability and ease of handling have been specially developed for UHP liquids. Liquid sourcing systems are available in many configurations, typically as either a single or dual container cabinets customized for any proprietary canister type used by any vendor of liquid chemicals.

Sourcing systems provide liquid pressurized with suitable push gas charged to the head space above a liquid in container. Depending on application, optional degasification may be required to remove diluted push gas from the liquid. Buffer tanks and Liquid VMBs can be deployed to distribute the liquid according to manufacturing needs.



FEATURES



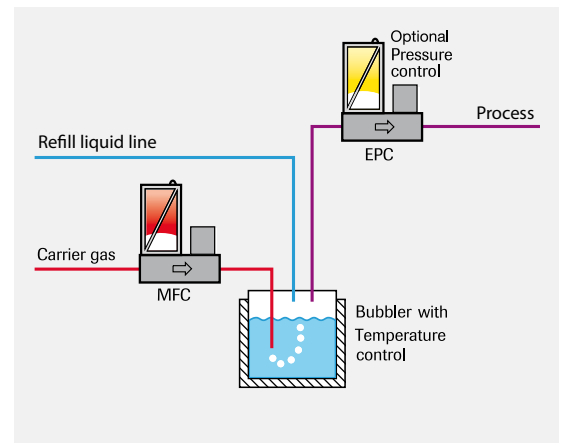
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BUBBLER

Various techniques were developed for conversion of the liquid into usable vapor by tool manufacturers. SVCS applies three major ones in their line of diffusion and CVD furnaces.

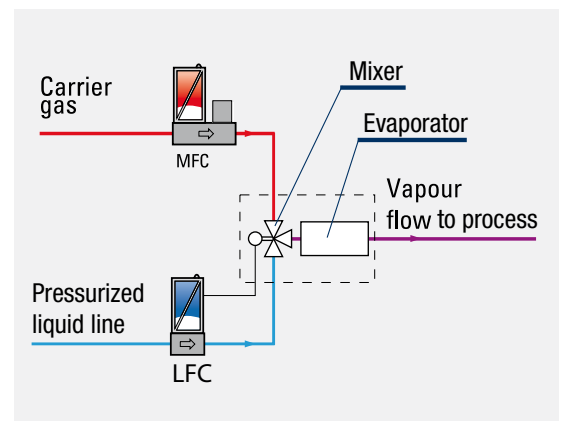
Bubbler is based on liquid vapor pick up by flowing carrier gas through the liquid. The flow of carrier gas is precisely controlled by mass flow controller and is introduced to liquid container through a dip tube while a carrier gas and vapor mixture leaves the container through separate top outlet. In order to maintain the same pick up rate during the whole process and from process to process, liquid media temperature has to be precisely controlled. A proprietary powerful combined heating/cooling engine for dry bath environment has been developed for this purpose.



EVAPORATOR



Evaporator system first mixes liquid and carrier gas to easily evaporable aerosol form. Both liquid and carrier gas flows are precisely controlled with mass flow controllers. Aerosol is subsequently evaporated at elevated temperature. Various mixtures can be evaporated, even solids, dissolved in solvents can be vaporized successfully.



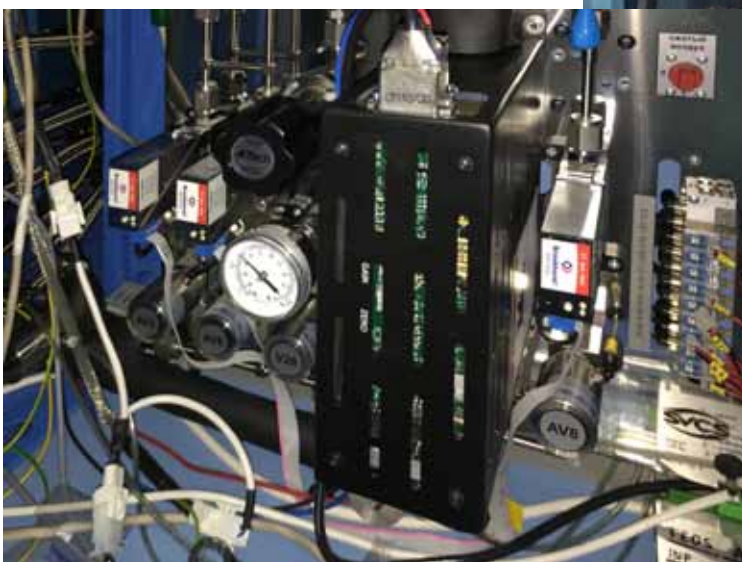
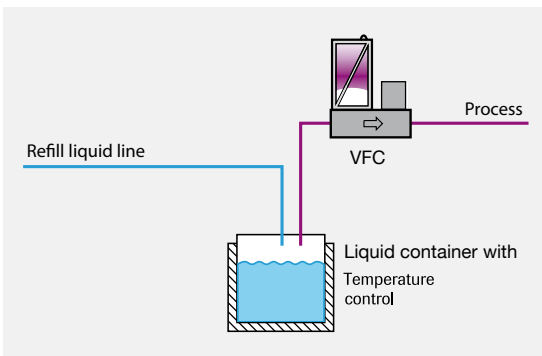
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Direct vapor delivery system utilizes low pressure difference between liquid saturated vapor pressure controlled by temperature and process pressure. Specialized vapor flow controllers working at low absolute pressures are used to control vapor flow to process.

On tool containers for bubbler or direct vapor delivery systems are either replaced after liquid depletion or refilled. Evaporator system requires pressurized liquid for precise flow control. Liquid sourcing and distribution provides liquid for both refill and point of use pressurized liquid lines. New source containers might require to undergo qualification test during which source container serves as a tool bubbler. Sourcing system is then required to provide such automated functionality.

VAPOR
SYSTEM



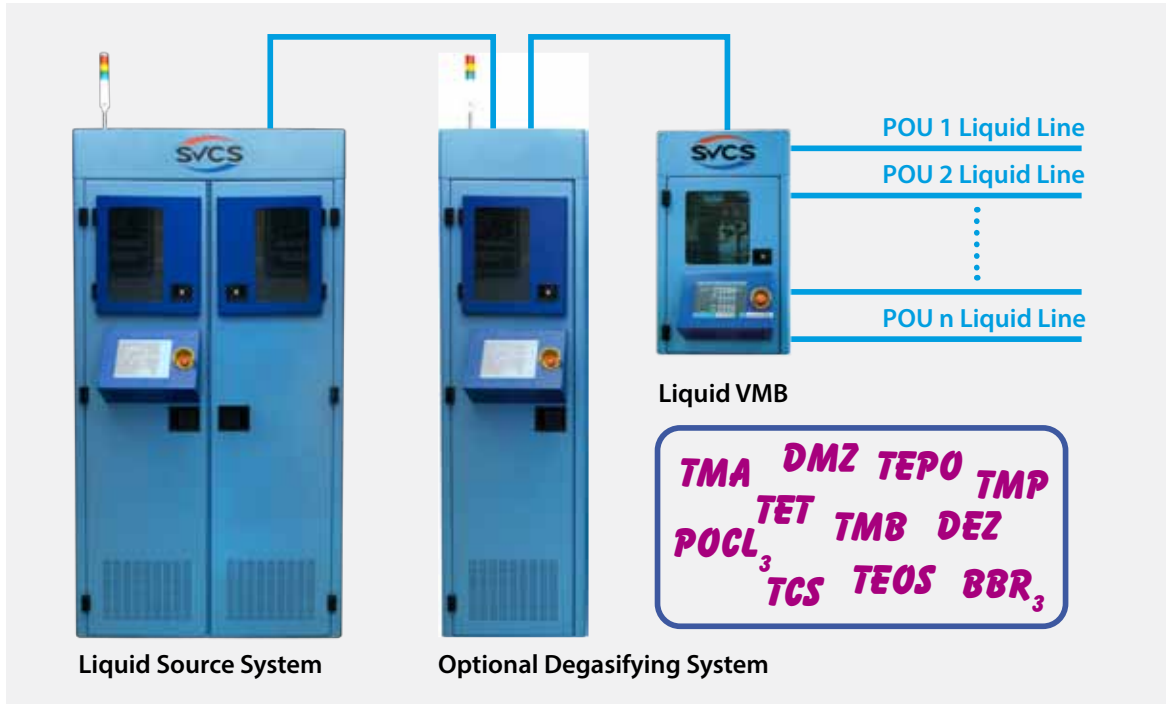


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SPECIFICATIONS



Contact our local representative or factory for more information regarding the tailored design for your laboratory. SVCS is a leader in customized solutions to fit demanding requirements of the research centers.



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