

espro®



ALL PRODUCTS

INNOVATIVE PRODUCTS FOR SEMICONDUCTOR PROCESSES

WWW.ESPROFLOW.COM

Heaters

- Inline heaters
- Immersion heaters
- Tank heaters
- Stand-alone DI-water heaters



Filtration

- Capsule filters
- Chemical filters
- DI-water filters
- CMP slurry filters
- Electroplate liquid filters
- ODF capsule filters
- Photoresist filters
- Stainless steel gas filters



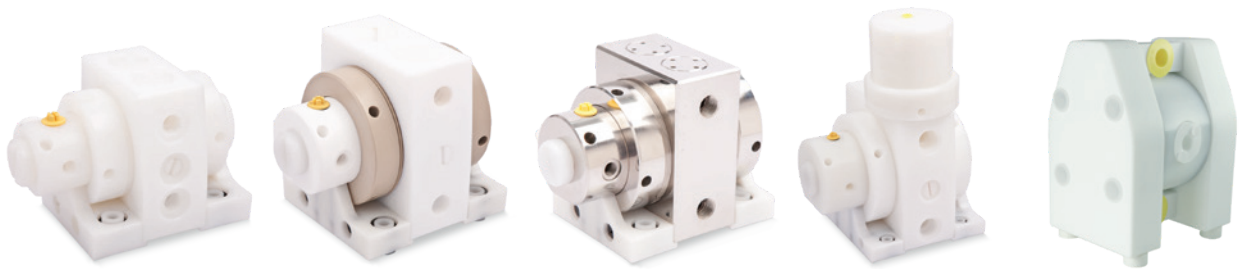
Flowmeters

- Clamp-on flowmeters
- Clamp-on flowmeters by Keyence
- Vortex flowmeters



Pumps

- Air operated double diaphragm pumps
- SEMI DMS air operated diaphragm pumps



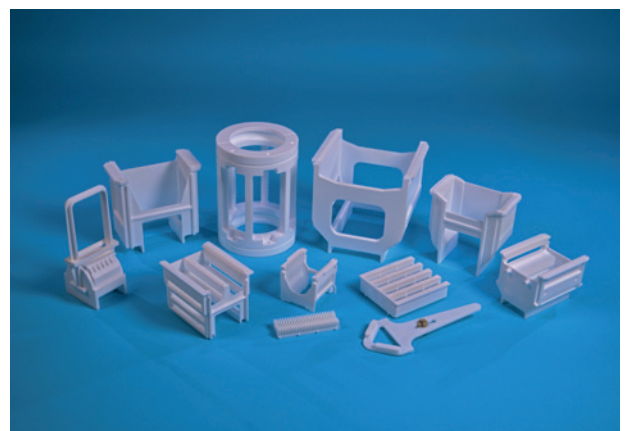
Process tanks

- Megasonic cleaning tank
- Quartz tanks



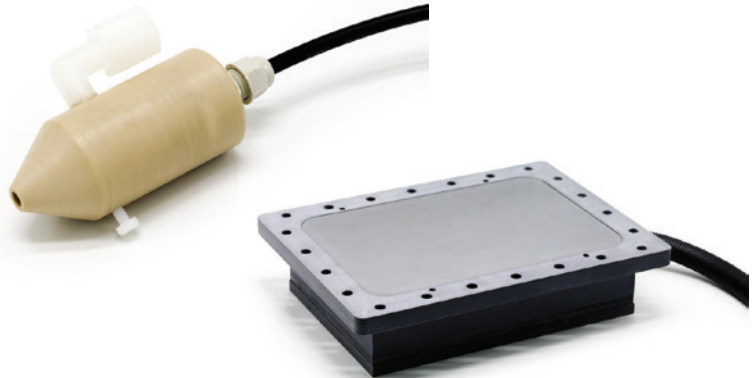
Process cassettes

- PFA process cassettes
- PTFE process cassettes - custom design
- Quartz Boats - custom design



Megasonic

- Megasonic cleaning systems
 - Batch type
 - Shower type
 - Cover type



PFA parts

- Aspirator
- Static mixer
- Pressure vessels
- Storage vessels
- Custom PFA products



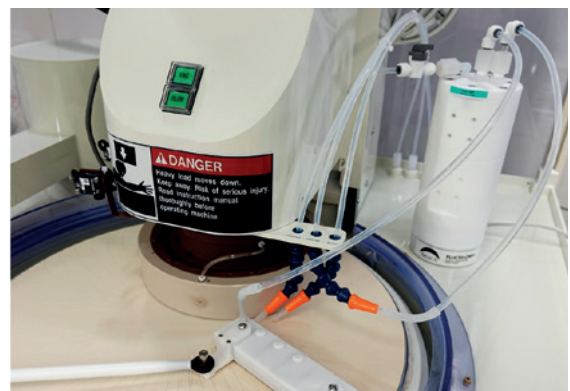
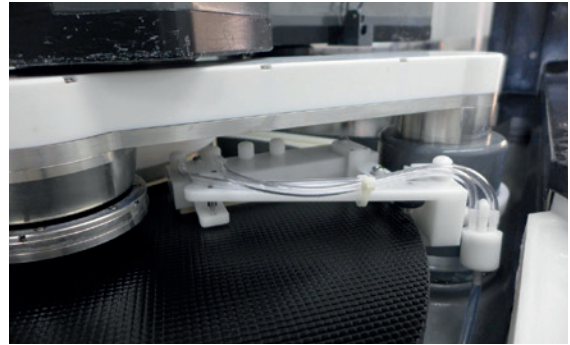
Tool refurbishment

- Spray acid tool
- Spray solvent tool
- Spin rinser/dryer



CMP

- Advanced SiC slurry
- Slurry Injection System (SIS®)
- Slurry enhancement - megasonic slurry activation
- Slurry particle distribution monitoring
- Slurry mixing cabinet



CMP process training

- 10 module course
- Detailed overview of CMP equipment, materials, and processes
- Modules:
 - **Module I** – Historical overview and a look into the future
 - **Module II** – Definitions of terms
 - **Module III** – Review of selected experimental evidence with the goal to introduce and discuss observations that form the basis for a conceptual understanding of CMP phenomena and CMP models
 - **Module IV** – Bulk polishing theory with the goal to apply a proper model for oxide and metal polish
 - **Module V** – Pads
 - **Module VI** – Tribology of CMP and nano-particle settling in slurries
 - **Module VII** – Advanced topics in CMP
 - **Module VIII** – Reactor design and modeling
 - **Module IX** – Diamond and CVD discs for pad conditioning
 - **Module X** – Retaining rings

HIGH QUALITY FLUID HANDLING SOLUTIONS

At SPS we believe technology moves the world forward. Not only in terms of growth, but also in terms of efficiency and sustainability. We are proud to be a part of an industry that holds the key to a better future for all. And we are extremely driven to help you innovate and improve your semiconductor production processes with innovative products, advice and service.

For that we have developed our own esPRO® line of fluid handling products including: flowmeters, pumps, heaters, spare parts and a line of filtration products. Combined with more than 35 years of experience in the semiconductor industry, SPS can truly help and inspire you towards more innovative production and a better future for all.

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