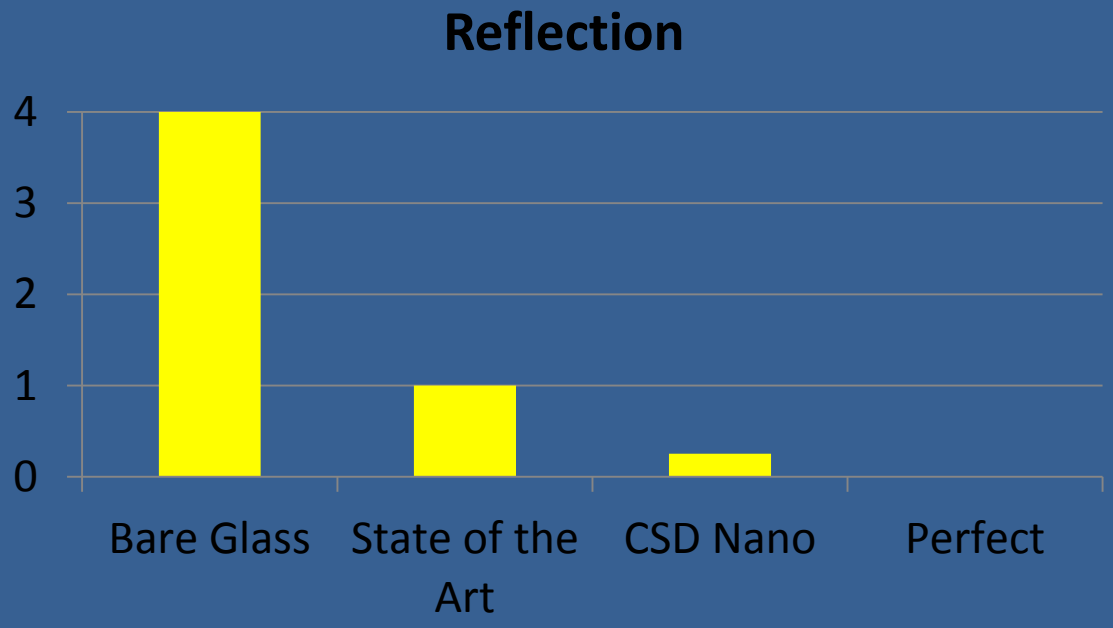
MoreSun™: Moth-Eye Nanostructure

- 4x Improvement in Reflectivity = High Performance vs. State-of-the-Art ARC
- Low cost Spray-and-Bake Process



CSD Nano, Inc

Status & Accomplishments

MoreSun™ design win with Tier 1 glass manufacturer for solar cell module glass

- Will have two float glass plants in production by 1Q13

$240,000 received in Federal and State grants, including NSF Phase 1 (Phase 2 pending)

Expanding into architectural glass with three Tier 1s

- Signing licensing agreements during 4Q12

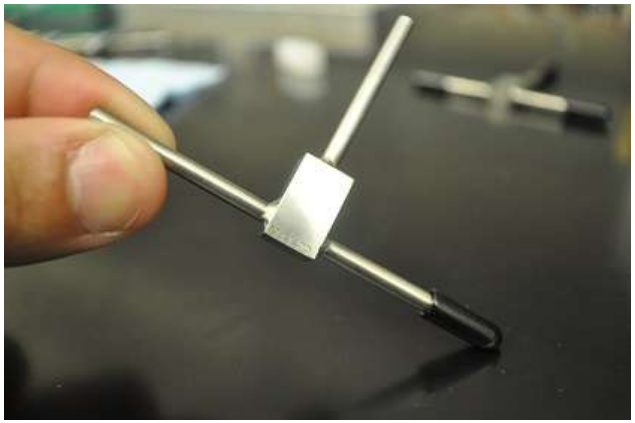
CSD Nano, Inc

microflowcvo™

"Micromixers to Match Your Process"

Broad flow rate, multi-input micromixers for multi-industry Research to Volume Manufacturing

- Pharmaceuticals
- Nanoparticle Synthesis
- Continuous Flow Manufacturing

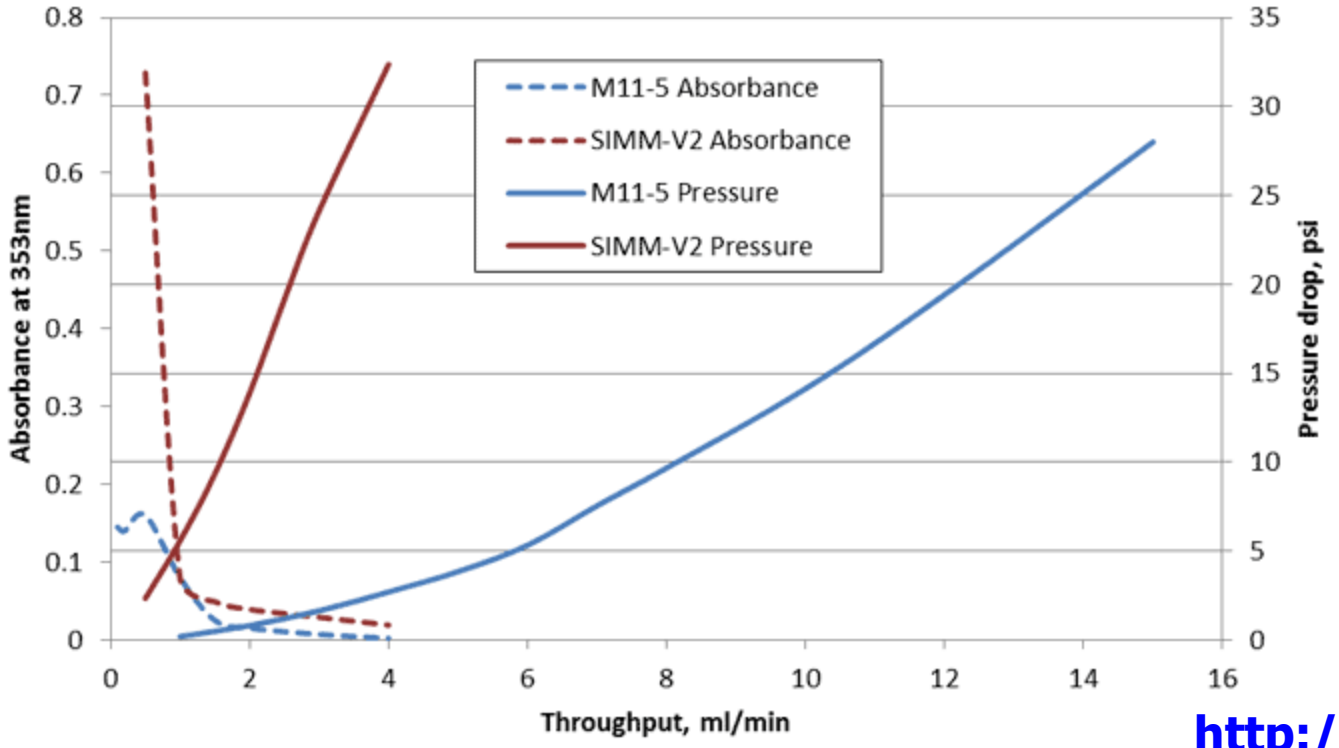


Patented multi-stage design using ultra-thin fluidic layers to increase mixing efficiency and homogeneity of product

- Uniquely enables rapid turn to custom specifications

microflowcvo™

Comparison of M11-5 to IMM SIMM-V2



Low Pressure Drop for Broad Range of Input Flow Rates

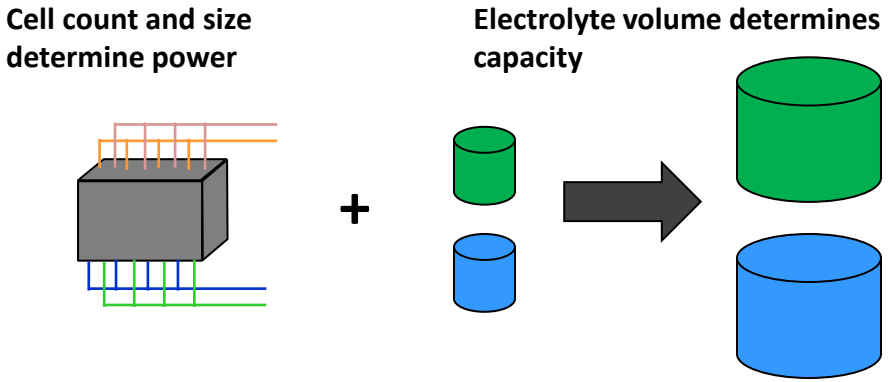
http://microflowcvo.com/

Technology & Product

Technology:

- Redox Flow Battery
- Currently using Vanadium and Iron Based Electrolytes
- Real-time monitoring of system health and performance

- Power & Capacity decoupled
- No electrode/Electrolyte Interaction



Product:

- 25 - 150kW systems
- <8 hours of capacity for Energy Management
- 12hr+ capacity for Backup Power
- Demand Response

Accomplishments

		Competitive Solutions				
		Lithium Ion	Zinc-Br	NAS	Lead Acid	VRB
Cost per kWh						
Capital	$170.00	>$1000.00	$400.00	$600.00	$238.00	$866.00
Replacements	$0.00	4 @ $1000.00	4 @ 200.00	3 @ 300.00	4 @ 238.00	$0.00
Maintenance	$100.00	$5.00	$60.00	$0.03	$5.00	$100.00
Fully amortized cost	**$270.00**	**$4005.00**	**$1,260.00**	**$1,500.00**	**$1,195.00**	**$1066.00**
Top competitors	-	A123 SYSTEMS, saft	Deeya Energy, Premium Power, redflow	NGK	SOLAR STAR	Prudent Energy VRB Systems, Ashlawn Energy

Recipient of $1.8M ARPA-E grant (Aug 2012)

- One of 19 recipients for “transformative new projects” in energy storage technologies