

CHALLENGES AND MARKET GAPS IN SOLID LIQUID SEPARATION DEVICES FOR CHEMICAL INDUSTRY

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Many chemical products and raw materials involved in manufacturing of high-value-added fine chemicals are in the form of solids. Therefore, solids processes such as solids formation and solid liquid separation (SLS) are indispensable in the chemical industry. On the other hand, in today's competitive market, chemical companies are moving towards a more agile, sustainable and cost-effective manufacturing. This means the solids and specifically SLS processes must be more reliable, more efficient (both filtration and wash), modular (to accommodate various throughputs and products), safer and less labor intensive. For instance, a product in form of solids which is typically generated in a crystallization or a precipitation reaction, must be isolated and then washed using either displacement or reslurry wash mechanism to remove impurities. To achieve the desired product quality as well as to reduce operational expenses and wastewater treatment costs, SLS asset needs to be highly adaptable to the specific, highly diverse product properties, process conditions and purity demands with distinct focus on economics. This presentation elaborates on these challenges and the gaps in the current SLS devices.