

VISCOUS POLYMER PROCESSING



Specialty Polymers |

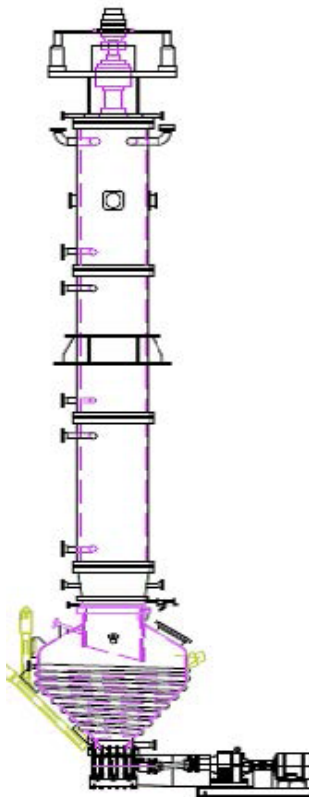
Country: *United States*

Key Benefits: *Pre-Concentration of 6 million cP high viscosity product*

Products: *LCI Polymer Processor*

Background:

The dilute feed entrained polymer into the vapor stream. The concentrated polymer is frothy, making pumping from the LCI evaporator to the vented extruder difficult.



HSG-2000 with Specialty Polymer Discharge System

Problem:

Client required a process to pre-concentrate their polymer to >90% upstream of a vented extruder. The pre-concentrated product had a viscosity >6 million cP at 92% concentration.

LCI Solution:

LCI developed a complete solution to the problem & confirmed the concentration at our Test Center in Charlotte, NC. The system design addressed several operational challenges:

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LCI demonstrated that a co-current configuration, where vapor & concentrated polymer are discharged from the bottom of the evaporator, not only solved the entrainment problem, but improved operability of the system. LCI also designed a special disengagement vessel, directly mounted to the bottom of the evaporator. This vessel allowed the polymer to accumulate & residual solvent escape the froth. A special high viscosity pump with very low NPSHr rounded out the solution.

End Results:

The plant has been successful operation since July 2013. The LCI High Viscosity Processor System allows the plant to run continuously without degradation & the need for cleaning. In a follow up inspection, two years after commissioning, the insides of the equipment remained in pristine condition with no polymer accumulation or degradation.