

CASE STUDY



Multipurpose Distillation Unit for Polymer Research Trials

*Reduced time for product development by 20%,
Increased product recovery*



Industry

Pilot Plant for R&D in the Polymer and Chemical Industry



Client Summary

The client is an Indian multinational Fortune 500 organization, engaged in producing chemical groups like chlor-alkali, epichlorohydrin, epoxy resins, phosphates, and sulphites. Renowned for its innovative approach in chemical and polymer research, the company approached Instron Technologies for a specialized R&D system for one of their global locations.

System Key Points

- ✓ **Lab-Scale Distillation Column:** Designed to operate in both continuous and batch modes.
- ✓ **Multicomponent Capability:** Capable of processing various components with multiple recipes.
- ✓ **Semi-Automated and Integrated:** Features an integrated heater and chiller, enhancing efficiency.
- ✓ **Mobile Plug and Play Skid Unit:** Ensures easy mobility and flexibility.
- ✓ **IoT-Enabled System:** Allows for remote monitoring and operation, adding to its innovative features.

Challenges

- ▶ **Complex Separation:** Required to efficiently separate multiple chemical components.
- ▶ **High Design Temperature:** Operating temperature set at 350 Degrees Celsius.
- ▶ **Specific Column Requirements:** A 2-meter height and 50 NB diameter column, with the flexibility to modify height for different recipes.

Project Success Factors

- ✓ **Precision Engineering:** Met complex specifications with high precision and quality.
- ✓ **Customized Design:** Successfully created a versatile system catering to varied R&D needs.
- ✓ **Technological Integration:** Implementation of IoT for remote operations, significantly saving time and cost.

Customer Feedback

The client praised Instron Technologies for their professional approach, exceptional finish, and world-class quality. The innovative IoT-enabled system provided by Instron was highlighted for its time and cost-saving advantages, especially by reducing the need for travel for Factory Acceptance Tests (FAT).

About Instron Technologies

With operations in India and Canada, Instron Technologies is a leader in Process Skid Plants, Digital Factory Solutions, and Test Bench Systems. Committed to sustainability, our dynamic team develops innovative solutions that not only meet critical customer challenges but also emphasize eco-friendly practices. Serving over 150 clients in more than 10 countries, we demonstrate our dedication to innovation, operational efficiency, and environmental responsibility.

Contact Us for More Details

-  **Canada: +1 (581) 985-7552** | **India: +91 7028015958**
-  sales@instrontechnologies.com
-  www.instrontechnologies.com