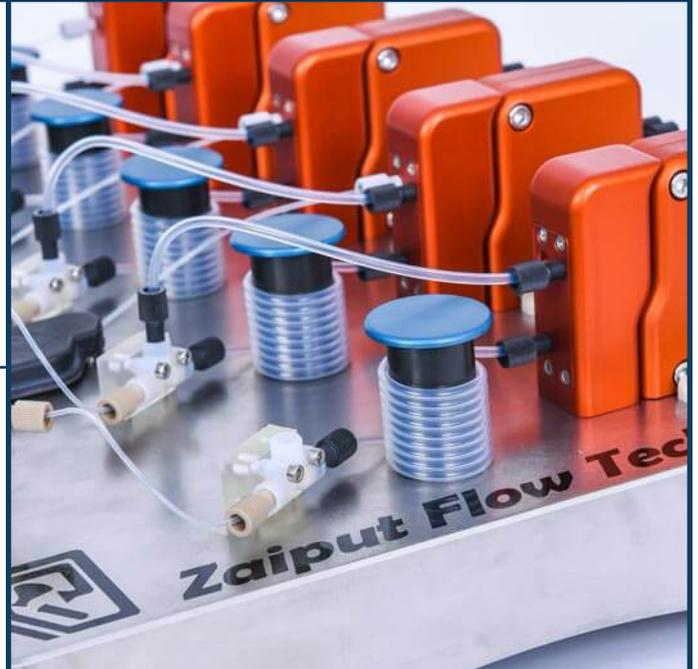


XOMETRY CASE STUDY

Xometry Helps Zaiput Build Flow Technology for the Global Pharmaceutical Industry

Zaiput Flow Technologies, a chemical separation and extraction equipment company, is using quickly sourced, medical-grade custom parts from Xometry to improve its supply chain and better serve its customers in the pharmaceutical industry.



AT A GLANCE

PROJECT BRIEF

Zaiput Flow Technologies (Zaiput) is a technology company that enables pharmaceutical companies, academic researchers, and more to mix chemicals more efficiently. They needed to create various components for their liquid extraction and separator platforms.

TECHNOLOGIES USED

Zaiput used Xometry's extensive range of capabilities for precision manufacturing including: [3D printed stainless steel 316L](#) and [aluminum 6061-T6 CNC machined](#) and [sheet metal](#) components.

SOLUTION

[Xometry](#) has worked with Zaiput for 4 years to create device main body housings and connecting components that are reliable and cost-effective. These are manufactured with tight tolerances and specific requirements that make the parts chemically inert, nonporous, and easily assembled and cleaned.

Going With the Flow: Pharmaceutical Innovation

As a leader in flow technology, [Zaiput Flow Technologies](#) (Zaiput) is changing the game for pharmaceutical companies on five continents including well-known industry giants. Flow technology is a growing production method used in the manufacturing of pharmaceuticals, providing more efficient and robust operations over the traditional batch production method.

In the industry's standard batch production method, discrete amounts of chemical material are processed, while in flow technology, reagents are continuously pumped and deployed as they travel through the system. Zaiput provides a unique solution for process steps that require separation of liquids (immiscible phases). The technology commercialized by Zaiput was developed by Andrea Adamo, CEO and founder, while he was working at MIT in the department of chemical engineering.

With the help of quickly sourced, medical-grade custom parts from Xometry, Zaiput has created a product that helps pharmaceutical companies reach ideal extraction efficiency. This means these companies can improve their chemical processes, reduce chemical waste, and bring products to market cost-effectively.



Xometry is a very reliable manufacturer for our parts. The items we receive always perform to the high health care standards set by U.S. and foreign regulators.

ROBERT BUTTERS

SENIOR DESIGN ENGINEER | ZAIPUT

Creating High Quality, Medical-Grade Parts With Xometry

Senior Design Engineer at Zaiput, Robert Butters, utilizes Xometry's [CNC machining](#) services to create Zaiput's extraction separator housing for its three major product lines. In its multi-stage extraction platform product, the housing combines advanced aesthetic design with the mechanical properties of [aluminum 6061](#). Xometry meets several manufacturing specifications to allow Zaiput to ensure a precise assembly, eliminate device error, and allow for easy cleaning per FDA standards.

Other manufacturing processes like Xometry's [metal 3D printing](#) service provide the same level of medical-grade compatibility, or in other words, corrosion resistance from pharmaceutical compounds. Zaiput uses Xometry [direct metal laser sintering \(DMLS\)](#) to create [stainless steel 316](#) tubing components.

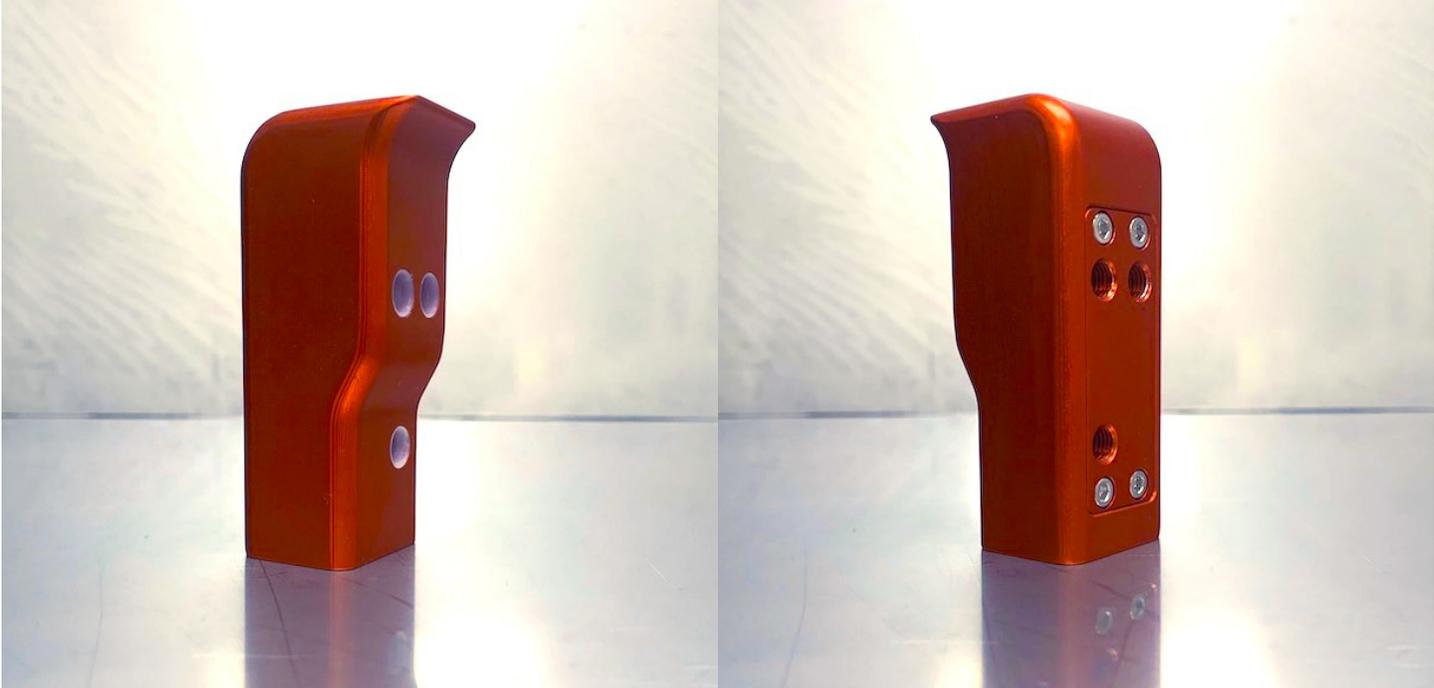
These parts are nonporous, which is suitable for the transfer of liquids because [metal 3D printing](#) sinters metal powder into fully dense cross-sections. [3D printing](#) (instead of [CNC machining](#)) this component is the best option for Zaiput to achieve the part's complex geometry while maintaining its structural integrity.



PICTURED: Zaiput's product uses Xometry-made CNC machined extractor housings, shown in orange

Zaiput also sources components from Xometry that allow the main device to switch out with a replacement in case of device failure. Xometry manufactured these parts with high precision—below +/- 0.002" in specified locations—due to the requirement to interface with other components.

All components Xometry manufactured for Zaiput must withstand high system pressure since some users require this feature. To meet this specification, the parts have high structural integrity based on sound manufacturing and high-quality materials.



“ ”

With Xometry’s Instant Quoting Engine, I get an answer right away. I can play with the quantity, the material, and processes. No combination is too much.

ROBERT BUTTERS

SENIOR DESIGN ENGINEER | ZAIPUT

Xometry’s capabilities for precision manufacturing of [stainless steel 316L](#) and [aluminum 6061-T6 CNC machined](#) and [sheet metal](#) components have withstood the test for Zaiput’s growing list of Fortune 500 [pharmaceutical customers](#). “Xometry is a very reliable manufacturer for our parts. The parts we receive always perform to the high health care standards set by U.S. and foreign regulators,” Butters says.

Manufacturing Solutions for the Pharmaceutical Industry

With the help of medical-grade custom parts manufactured by [Xometry](#), Zaiput has created flow technology that allows pharmaceutical companies to meet demand more efficiently. Not only is Zaiput able to get its turnkey products to market faster, cost-effectively, and without product error, but Zaiput can break into an extensive range of new manufacturing technologies like [metal 3D printing](#), [CNC machining](#), [sheet metal fabrication](#), and [post-processing](#) without purchasing the equipment.

Butters calls Xometry “fast, practical, and digital.” “With [the Xometry Instant Quoting EngineSM], I get an answer right away. I can play with the quantity, materials, and processes. No combination is too much.”

And importantly for Zaiput's prototyping stages, Zaiput engineers can order low-volume prototypes from Xometry at any time. These orders are placed with open-capacity manufacturers in Xometry's network of over [4,000 manufacturers](#) with no questions asked.

With Xometry as a manufacturing [supply chain consolidator](#) for the last 4 years, Zaiput's technology is revolutionizing the [pharmaceutical and health care industries](#). Together, the companies are shaving down production costs and creating efficiencies across the supply chain with each custom part.



ABOUT XOMETRY

[Xometry](#) is the largest marketplace for On-Demand manufacturing, connecting customers with optimal manufacturing solutions through proprietary AI algorithms. Xometry provides custom manufacturing, industrial supply materials, and finishing services to a diverse customer base around the world. Our international network of over 4,000 partner manufacturing facilities enables us to maintain consistently fast lead times while offering a broad array of capabilities, including CNC Machining, 3D Printing, Sheet Metal Fabrication, Injection Molding, and Urethane Casting. Xometry's customers include BMW, Bosch, Dell Technologies, General Electric, and NASA.