

Andritz Ritz

Streamline Product Development with Patternless Process

Leading water pump manufacturer conducts functional tests with printed prototypes and saves more than 85% in costs over traditional methods.



Customer Challenge

The manufacturer needed to fast-track complex prototype and spare part production to meet tight production schedules while driving down costs. Additionally, the company needed to conduct functional tests with the prototypes for efficient product development.

The Solution

Printing several cores and shells for a complete mold package as well as using a hybrid approach with traditional methods to create prototype step pump housings and impellers.

ExOne Competitive Advantage

Fast-tracking without required investment for patterns and tooling; no restriction for complex cores; different geometries for testing of hydro dynamical efficiency due to proper certification prior to serial or low batch production.

Conclusion

ExOne's digital printing process is highly competitive for product development and cost-comparable for low batch production or time-sensitive projects with customized features.

About ExOne

ExOne digital part materialization uses three-dimensional printing to create complex molds and cores directly from CAD data for a variety of industries, with accuracies of ± 0.011 in. or ± 0.3 mm. The ExOne process achieves geometric complexity and scale unmatched using conventional casting techniques. The process produces accurate, uniform cores and molds rapidly, significantly reducing lead times.

Specifications

Customer: Andritz Ritz

Part: Step booster pump

Batch Size: 1-5 pieces average

Part Size: 300 x 300 x 600 mm to 800 x 800 x 1500 mm

Material Cast: Bronze

Traditional Method

Tool making for core blowing

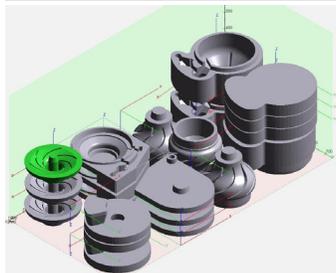
Time: Approximately 6 weeks

Cost: 8,000-40,000 € due to size and complexity (estimated)

ExOne® Sand Printing Method

Production Time: 20 min. to 20 hrs per form package

Cost per Part: 400-6,000 €



CAD Rendering



Finished Castings

To learn more, contact: www.exone.com