Diamond T SERVICES

How to Test Run Your Centrifuge: Checklist for Buyers

Evaluate Your Centrifuge in Real-World Conditions to Ensure Success Before You Buy

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Performance should never be left up to chance.

A centrifuge is a significant capital investment. To ensure the technology meets your operational and performance requirements, you can test it out first by purchasing a pilot.

What Is a Pilot Centrifuge?

For a fraction of the cost of a full scale equipment purchase, Diamond T Services offers a pilot version that ensures your exact centrifuge solution works for your application.

Testing occurs before, during, and after implementation, and options range from small-scale lab testing to full-scale on-site testing. The program helps you make informed purchasing decisions.

SEE HOW THE PILOT PROGRAM WORKS

- **Capture essential data** through lab work and site visits
- **Simulate** real-world conditions
- **Assess equipment suitability** for specific applications
- **Evaluate ROI** before committing to a full purchase
- **Compare separation technologies** (Alfa Laval Decanter Centrifuge vs. Belt or Plate Presses)
- **Determine the best fit** for your operational requirements

So how do you know if your test centrifuge is working, to a T? That's where this checklist comes in handy.

The Centrifuge Test-Run Checklist

- [ ] Define Your Objectives*
- [ ] Verify Material & Process Compatibility
- [ ] Evaluate Operational & Maintenance Requirements
- [ ] Assess Centrifuge Performance
- [ ] Transition to Long-Term Success

Keep reading for the details

*This step happens before you receive your pilot centrifuge

1 Define Your Objectives

Before testing your pilot centrifuge, establish clear objectives. These goals will be key performance indicators (KPIs) to determine the test's success.

Common KPIs include:

- [ ] **Centrate Clarity:** Ensure that the liquid output meets the required purity levels, as any residual solids in the centrate could impact downstream processing or product quality.

- [ ] **Solids Dryness:** Measure the moisture content in the separated solids to help determine whether the centrifuge effectively removes liquid and produces a dry enough solid for disposal, reuse, or further processing.

- [ ] **Processing Capacity:** Determine whether the centrifuge can handle the required flow rate, measured in gallons per minute or tons per hour, without causing bottlenecks or inefficiencies.

- [ ] **Footprint & Size:** Confirm that you can install the centrifuge within the available area without interfering with existing equipment or workflows.

- [ ] **Power Requirements:** Evaluate the energy consumption of the centrifuge to ensure it operates efficiently within your facility's power capacity and does not cause excessive operational costs.

- [ ] **Cost Considerations:** Assess whether the centrifuge provides the necessary efficiency and output while remaining cost-effective in terms of both initial investment and long-term operational expenses.

Here's how to define the right KPIs for your test run

Every job is unique.

Some operations prioritize water clarity, while others focus on maximizing throughput. Understanding these priorities upfront helps during the centrifuge configuration selection process.

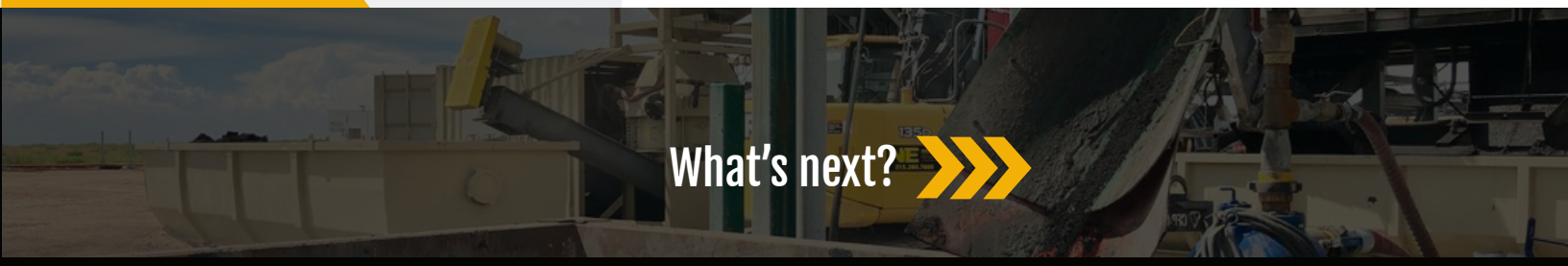
SAMPLE QUESTIONS

1. What is your application or process?
2. What are your feed components?
3. What are your operational conditions and capacity?
4. What are your desired process results?

When you first inquire about the pilot program, you will receive a simple questionnaire to fill out. This will help us help you define your exact objectives.

Once you answer questions like these and more, we have enough information to configure the right pilot for your needs.

Then, we'll conduct on-site data analysis to validate performance. If the pilot unit meets the defined targets, we can scale up to a full production test system.



2 Verify Material & Process Compatibility

Ensuring that the material and process are compatible is a critical step in a centrifuge test run, as it helps identify potential challenges early on and sets the stage for a smooth and efficient operation.

The process begins with gathering as much existing data as possible:

- [ ] **Gather Lab Analysis Data:** If you have already conducted lab analysis, such as particle size distribution or material characteristics, we start there.
- [ ] **Laboratory Testing:** If no prior analysis exists, a sample is sent to a lab for testing to determine separation feasibility.
- [ ] **Pilot Testing:** Based on the lab results, the next step is either a small-scale pilot or moving directly to a full-scale pilot, depending on the material's behavior.

Thorough testing upfront ensures confidence in the centrifuge's ability to handle the material effectively. Skipping this step can lead to significant issues later, so proper due diligence is necessary.

Once compatibility is confirmed

3 Evaluate Operational & Maintenance Requirements

A clear understanding of operational and maintenance needs is essential for a successful centrifuge pilot and its potential long-term implementation.

Here's what this involves:

Operational Considerations

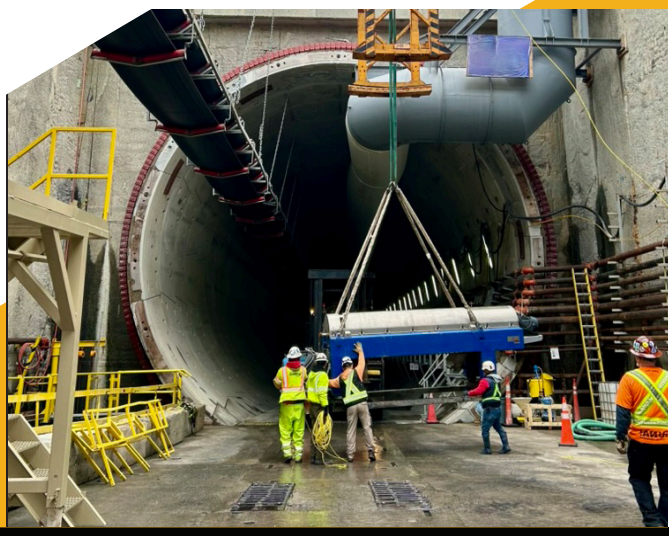
- [ ] Number of personnel needed to operate the centrifuge
- [ ] Equipment footprint
- [ ] Power consumption
- [ ] How the system integrates with your facility/site

Ancillary Equipment

- [ ] Centrifuge stands, trailers
- [ ] Pumps, storage vessels
- [ ] Dryers
- [ ] Miscellaneous Equipment

Maintenance Requirements

- [ ] Do you need an ongoing maintenance contract?
- [ ] Do you have spare parts?
- [ ] Do you need training to self-perform maintenance?



Next, how to assess centrifuge performance

4 Assess Centrifuge Performance

Compare KPIs before and after installation to assess improvements in separation efficiency and overall process performance.

The success of a centrifuge depends on its intended purpose. Here are 3 examples:

Water Recovery
Measure how much water you recover during the centrifuge operation.

This measurement is critical in industries where water is a significant resource or if you have environmental goals related to water conservation.

Dry Solids Content
Measure how efficient your centrifuge is with dewatering waste.

For industries that dispose of waste in landfills, dry solids content helps reduce disposal costs. This is because landfill fees are often based on weight, and water makes waste heavier.

Process Recovery
Measure recovery rates to see how the centrifuge reclaims valuable materials.

Certain materials may be reused within your process, so it's important to determine whether your pilot centrifuge can recover those valuables from waste streams.

While specific testing methods may vary, the goal remains the same: identifying the right success metrics and ensuring they are met through appropriate testing and verification.

What happens if things don't work as expected?

The real-world is never as tidy as the lab.

Real-world conditions can introduce unexpected variables to your pilot centrifuge's performance. If the pilot centrifuge does not meet its outlined goals, we can look at…

- ☐ Equipment settings
- ☐ Chemical usage
- ☐ Process changes

A centrifuge pilot is not a simple plug-and-play process – it requires iterative testing, adjustments, and expert guidance.

Diamond T SERVICES

Answers aren't sold separately.

Our expert team understands the ins and outs of fluid and solid separation processes, allowing us to bring together the right centrifuge configuration for any application.

We provide ongoing support to fine-tune operations, troubleshoot challenges, and ensure a successful test outcome!

Success!
What are next steps?

5 Review Data Against KPIs

By this point, you should have enough data and feedback to decide on the best next steps. Depending on your long-term goals, your next steps might be:

- [ ] Extending the pilot for further testing
- [ ] Moving to a long-term rental
- [ ] Purchasing the centrifuge as a permanent solution

How to Decide

- [ ] Analyze all collected data against established KPIs
- [ ] Identify gaps (equipment or process)
- [ ] Depending on gaps, you might decide to…
  - ○ Run additional validation tests
  - ○ Modify process
  - ○ Adjust centrifuge settings
- [ ] Transition to full-scale implementation

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At the end of your pilot, we will set up a review call with you to help you with the decision and planning process. This will ensure the transition to full-scale operation is well-planned and aligned with your needs.

Now you're ready to test run your centrifuge. ✓

Take your centrifuge for a test spin

The Diamond T Services Pilot Program offers a valuable opportunity to evaluate decanter centrifuge technology with minimal risk.

When you are ready to begin the pilot process, remember to follow this checklist to ensure your test-run is data-driven and aligned with your operational goals:

- ☑ Define Your Objectives
- ☑ Verify Material & Process Compatibility
- ☑ Evaluate Operational & Maintenance Requirements
- ☑ Assess Centrifuge Performance
- ☑ Review Data Against KPIs

Diamond T Services is a centrifuge separation equipment distributor and integrator that provides access to high-quality separation technology under flexible terms. Take advantage of our pilot program to ensure you're getting the right equipment for your process – before you invest.

SCHEDULE YOUR PILOT

diamondtservices.com/pilot-program