

IS 8472:2019 Centrifugal Regenerative Pumps for Clear, Cold Water

This Indian Standard (IS 8472:2019), specifies the technical requirements for **centrifugal regenerative pumps** used for handling clear, cold water. These pumps operate by repeatedly accelerating the fluid using an impeller with radial blades. The fluid is transferred to the root of the next blade via a channel and gains additional energy, increasing velocity and pressure.

The standard covers both **non-self-priming and self-priming pumps**. It provides detailed descriptions of the quality parameters of pump's **components, materials of construction, marking requirements and performance characteristics** like **Guaranteed duty point, Self-priming, Prime-mover compatibility**. The standard addresses key concerns about the performance and reliability of these pumps.

The standard includes a comprehensive set of tests for verifying above parameters. These **tests** include:

1. Hydrostatic Test: This test assesses the structural integrity of the pump casing.

2. Self-Priming Test:

- This test is specifically for self-priming and semi-self-priming pumps.
- The pump's ability to prime itself under a specified static suction lift is evaluated.

3. Routine Tests: They assess the motor's performance at rated conditions. Tests include:

- Measuring the **pump's operating characteristics (discharge, total head, current, and input power)** at the guaranteed duty point.
- Checking for non-overloading of the prime mover.
- Verifying **rated output, full-load speed, and full-load current of the motor**.

4. Type Tests: Evaluates the pump's performance under extreme conditions.

5. Performance Verification Tests: The tests include:

- Plotting the **Q-H (discharge vs. head)** curve and comparing it to the guaranteed duty point.
- Verifying the non-overloading of the prime mover
- Checking for self-priming performance in self-priming and semi-self-priming pumps.

These tests collectively ensure the quality, performance, and safety of centrifugal regenerative pumps for clear, cold water, ensuring they meet the expectations of **consumers** and operate **reliably** in various applications.