



## BLOG

# 5 Reasons You Need Immersion Cleaning

Industrial manufacturing operations often produce large amounts of dirt, grime, and other contaminants. As you know, these can build up on surfaces and equipment, making cleaning difficult. This affects the quality of the products being made and the efficiency of the manufacturing process.

Immersion cleaning is an effective way to remove these contaminants. It involves submerging parts in cleaning chemistry and then agitating them to loosen and remove the dirt. There are systems with various cleaning mechanisms and stages with additional features depending on the application. Immersion cleaning is often used for objects that are difficult to clean with other methods, such as vehicles, machinery, pharmaceutical, and industrial equipment. It can also be used for delicate items that cannot withstand scrubbing or abrasive cleaning agents.

In this article, we'll walk you through some variations as you decide whether immersion cleaning is for you and what you may need to clean your parts effectively.

## Four Factors of Immersion Cleaning

Immersion cleaning is frequently used in manufacturing because it is an efficient and cost-effective way to clean parts. When looking at immersion cleaning options, you need four key things: chemistry, immersion time, temperature, and agitation. These four factors will ensure that the immersion process is both effective and safe.

### Chemistry

The first factor, chemistry, is the liquid used to clean the parts. Common categories are solvent (usually mineral spirits) and aqueous (water-based). Within the aqueous category, there are many special sub-types: acidic, alkaline, carbon-removing, low foam,

etc. Each of these is designed for specific purposes, and your local Graymills expert can help you find the right one for your specific application.

### Immersion Time

The second factor, immersion time, is the amount of time the object being cleaned is submerged in the cleaning solution. The immersion time will vary depending on the type of object being cleaned, the type of contamination, mechanical or ultrasonic agitation, and the amount of contamination present. Immersion time will also need to increase as the cleaning fluid becomes dirtier.

### Temperature

The third factor, temperature, is the temperature of the cleaning solution. While solvent chemistries should always be used at room temperature unless otherwise directed by the manufacturer, aqueous cleaning solutions typically work better when heated to the recommended temperature for the particular immersion cleaner used. Do not heat cleaning fluids above their recommended temperatures, as this could result in the loss of performance.

### Agitation

The fourth factor, agitation, is the movement of the cleaning solution over the surface of the object being cleaned. Agitation helps to loosen and remove contaminants from the surface of the object. It can be provided mechanically by pumping fluid over the part or by using an agitating lift platform, or it can be provided through the use of ultrasonics. Agitation increases cleaning efficacy and decreases required immersion time.



## 5 Reasons You Need Immersion Cleaning

### Considerations When Choosing Immersion Cleaning

There are many factors to consider when deciding whether or not immersion cleaning is the right solution for you. Here are a few things to think about:

The type of contaminants you are trying to remove. Immersion cleaning is often used for stubborn or difficult-to-remove contaminants, especially from parts with complex geometries. It can also be used in manufacturing cells for the quick removal of machining and honing oils.

The type of object you are cleaning. Larger parts require larger machines, which can become bulky and costly. Additionally, some materials are not compatible with wet cleaning methods. Always check chemical compatibility before choosing a cleaning fluid, and ask your local Graymills expert for help.

Labor versus capital. Immersion cleaners are more expensive than manual cleaning systems, especially if ultrasonic cleaning is involved. However, they can often clean parts hands-free, allowing you to do other work instead of scrubbing parts. Balancing the up-front cost with labor savings is an important discussion point.

The number of stages. Immersion cleaning systems, especially aqueous ones, can have stages like wash, rinse, rust preventative, and dry. However, depending on what you are cleaning, the chemistries used, and other needs, you may need a system with additional filtration, oil separation, or auto water refill.

### Knowing when it's time to review your cleaning system.

- Your cleaning chemistries have changed
- You need more or less throughput
- The contaminants have changed
- You're too busy to clean parts
- Your results are too inconsistent

### Choosing the Right Immersion Cleaning Solution

Graymills immersion cleaning systems are available in a variety of sizes and styles to meet your specific needs. Whether you need a small system for a few parts or a large multi-stage system for high throughput, Graymills has something that will work for you. We also offer immersion cleaners and additional add-ons to make your immersion cleaning system the most efficient for your processes.

If you are looking for an immersion cleaning system that will provide the best possible cleaning results, Graymills is the right choice. With a variety of sizes and styles to choose from, Graymills has an immersion cleaning system that will meet your needs.

**Contact a Graymills representative for all your parts cleaning needs at [sales@graymills.com](mailto:sales@graymills.com)**