

# Spec for Success: What Engineers Need to Know before Specifying a Pump

Specifying the right pump is more than just selecting a model, it's about engineering a solution that delivers performance, reliability, and long-term value. Tsurumi Pump, a global leader in pumping solutions for wastewater, construction, and industrial applications, is helping engineers take the guesswork out of the bid and spec process with expert backed insight to note when specifying a pump.

## Precision Matters: The Fundamentals of Pump Specification

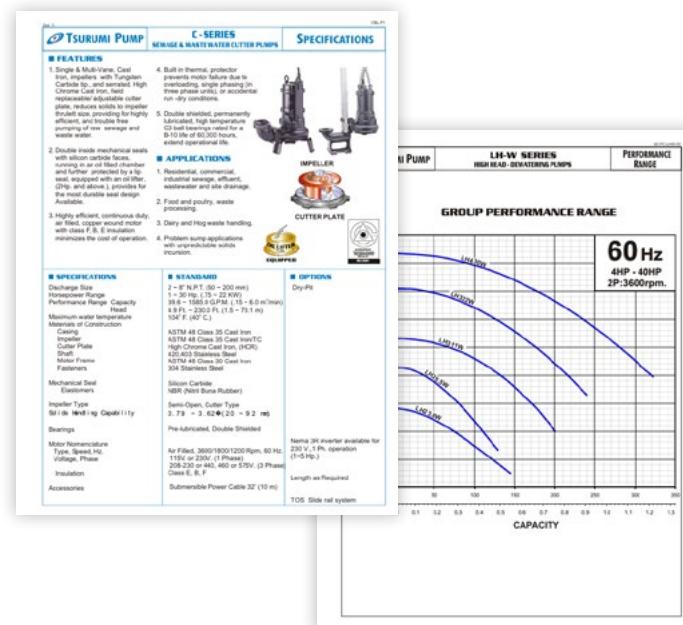
Accurate specifications are a key factor to a successful pump installation. Engineers must evaluate a wide range of parameters to ensure optimal performance and long-term project success. Factors include flow rate, total head, efficiency, power requirements, net positive suction head, operating conditions, and material compatibility. Overlooking these variables can have a negative impact on pump reliability, safety, and energy efficiency.



Tsurumi's products are built with a range of materials to meet every challenge.

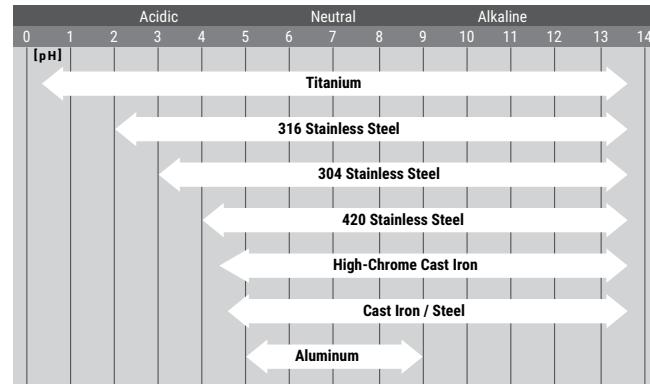
## Materials: Durability by Design

Material selection plays an important role in pump performance and longevity. Engineers must consider fluid characteristics, temperature, and potential abrasives or corrosive elements when choosing materials. For applications involving higher fluid temperatures, models designed to withstand elevated thermal loads may be necessary. By choosing materials that align with the operating conditions and maintenance strategy, engineers can reduce the risk of unscheduled downtime and improve the total life cycle performance of the pump system.



Accurate specifications are the foundation of reliable pump performance.

## pH Values and Corrosion Resistance of Tsurumi Pumps



The above data is a rough indication for sulfuric acid ( $H_2SO_4$ ) and sodium hydroxide ( $NaOH$ ). Metals are affected by the type of acid/alkali, seal material, painting and abrasive environment.

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### Addressing Real World Challenges

During the specification process, engineers may encounter a range of challenges including vague specifications, bid shopping, miscommunication, material and design discrepancies, and ownership cost expectations. In addition, site conditions and future operational shifts must be factored into the specification. Engineers should consider if impeller adjustments are needed, variable speed drives, or if foundation issues may arise as well. If proactively addressed, lifecycle risk can be reduced. With thoughtful specification and attention to performance, material, and installation factors, engineers can ensure long-lasting pump systems for years to come.

### CONTACT

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### ABOUT TSURUMI

Tsurumi (America), Inc., a division of Tsurumi Manufacturing, was founded in 1979. Headquartered in Glendale Heights, Illinois, Tsurumi (America), Inc. has bases in Quebec, Canada; El Paso, Texas; and Salt Lake City. Globally, Tsurumi is active in 45 countries and has been an innovator in the pump industry since 1924. Tsurumi (America) is a provider of leading pumping technology in construction, civil engineering, mining, industrial wastewater, municipal wastewater, sewage treatment, flood control and scenery creation fields. Tsurumi products are backed by independent, third-party verification. Beyond leading pump technology, Tsurumi (America) is recognized for its robust distribution network and one of the largest on-hand inventories in North America.