

Why Solids Handling is About More Than Solids Passage



Effective solids handling requires more than a large passage. The BN Series pump uses a smashing cutter mechanism to process wipes, plastics, cloth, and other difficult fibrous materials.

Managing difficult solids requires more than simply providing a larger passage through the pump

Selecting a wastewater pump for solids-heavy applications involves more than checking the diameter of its solids passage. The type, shape and behavior of the material entering the pump—and how that material interacts with the impeller and suction area—can have a significant effect on reliability.

Fibrous materials present a particular challenge. Wipes, rope, plastic bags, cloth and similar materials may bend, wrap or accumulate rather than simply pass through a pump. One critical area is the low-pressure region near the center of the impeller, where material can collect and contribute to clogging.

Pump design can help address the problem before a blockage develops. Tsurumi's newly introduced **BN Series Submersible Smashing Cutter Pump** uses a semi-open channel impeller with an extended rotating guide working

together with a heart-shaped stationary suction blade. The guide directs incoming material toward the cutting area, where rotating and stationary components crush, cut and shred solids and long fibrous materials.

Effective solids handling also has to be balanced with hydraulic performance. A pump designed to resist clogging still needs to deliver the required flow and head efficiently. The BN Series combines its smashing cutter mechanism with a semi-open channel impeller designed to maintain hydraulic performance while handling difficult solids. In some applications, this can also allow comparable performance at lower installed horsepower than Tsurumi's previous C Series cutter pumps.

The relationship between critical pump components is also important. In conventional wastewater and industrial pumps, maintaining the specified clearance

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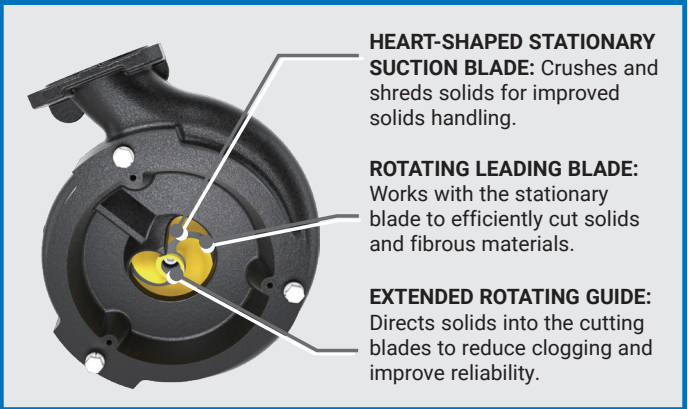
between the impeller and suction cover helps prevent underperformance and overcurrent. In the BN's smashing cutter mechanism, a narrow, inclined clearance between the rotating leading blade and heart-shaped stationary suction blade supports effective cutting action. The impeller and suction cover are constructed of ductile cast iron selected for impact resistance, helping the cutting components withstand repeated contact with difficult material.

Ultimately, effective solids handling requires looking beyond a single specification. The characteristics of the solids, how they enter and move through the pump, impeller and suction design, hydraulic requirements, and critical component clearances all influence how effectively a pump can handle challenging material. Considering these factors together can help operators select equipment for more reliable operation.

For more information about the BN Series Submersible Smashing Cutter Pump, visit www.tsurumipump.com/bn-series, email info@tsurumiamerica.com, or call 888-878-7864.

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BN SERIES: ANTI-CLOGGING SMASHING MECHANISM



Effective solids handling depends on more than passage size. The BN Series smashing mechanism combines a stationary suction blade, rotating leading blade, and extended rotating guide to cut, shred, and direct difficult solids for reliable pump operation.

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Founded in 1979, Tsurumi (America), Inc. is a subsidiary of Tsurumi Manufacturing Co., Ltd., a global leader in pumping technology since 1924. Headquartered in Glendale Heights, Illinois, Tsurumi serves customers throughout North America with reliable pumping and water management solutions for construction, mining, industrial, municipal wastewater, sewage treatment, flood control, and water feature applications. Backed by a global presence spanning more than 45 countries, Tsurumi is recognized for product reliability, engineering expertise, and a strong distribution network.