NOVA ROTORS®

Progressing cavity Pumps

WASTE AND SLUDGE TREATMENT

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Progressing cavity Pumps

SLUDGE TREATMENT INDUSTRY

The sludge treatment industry arises from problems linked to the treatment of civil and industrial waste water. The use of abundant water generates a large quantity of waste water which requires special treatment to remove the harmful substances contained in it before it can be recycled back into nature.
Purification plants were developed to remove the harmful substances contained in waste water by means of active or activated sludge thereby generating semisolid waste called thickened sludge, which in turn must also be disposed of.

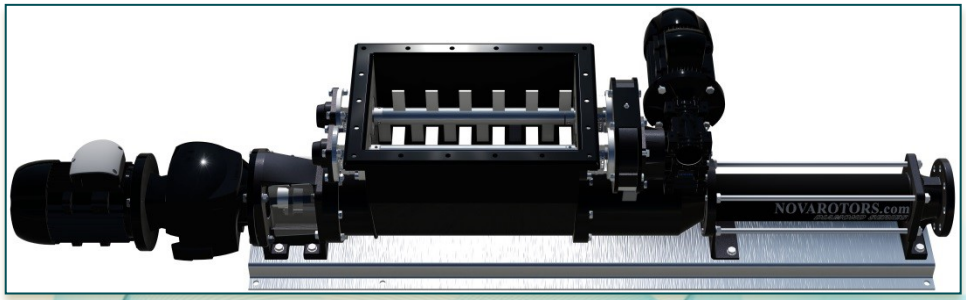
Over the years ongoing research and the use of new technologies have made it possible to dispose of and reuse waste material in many industries such as for example in biogas plants or to recycle it back into nature as fertiliser. Disposal plants, normally huge centralised plants, reduce the moisture content of the sludge through a process of thickening and densification in order to generate a dry material that is easier to store and use

This industry is the ideal application for progressive cavity pumps because of the nature of the treatment sludge, which has a high percentage of solids content that increases during the various treatment stages, tends to plasticize and has adhesive properties.
Progressive cavity pumps perform best in the various stages involving the transfer of this matter as they ensure effective and reliable performance, which are of vital importance for a waste disposal plant, and higher output levels compared to other pumping systems.

WHY CHOOSE NOVA ROTORS?

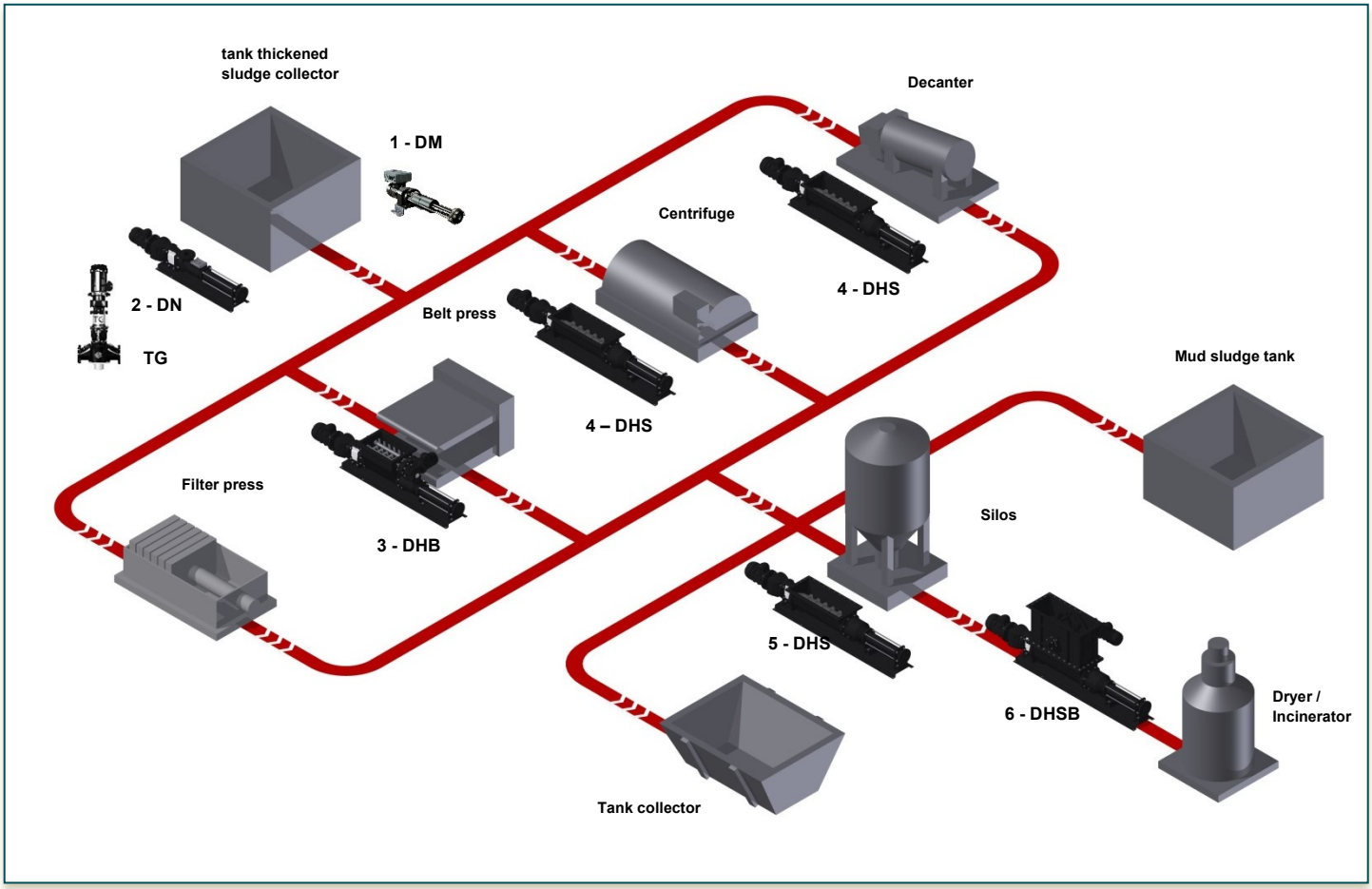
Nova Rotors has been operating in the sludge treatment industry for years providing the best possible solutions, a wide range of products, services and expertise to find the most suitable configuration based on the customer's specific requirements.
The various testimonials received from our customers both in Italy and from around the world over the years attest to the commitment of a dynamic company focussed on meeting the constantly growing market demands.
The pumps conceived and developed directly by Nova Rotors are designed specifically for the treatment of thickened and dewatered sludge with a high solids content of up to 40%, with low or high viscosity and that tend to plasticize, fluid or semi-fluid typical of sludge treatment plants.

The Nova Rotors progressive cavity pumps are developed scrupulously in compliance with the strictest hygiene standards to guarantee high standards of quality, reliability and durability, by providing the best solutions throughout all the plant's storage and treatment stages.
Special attention has been given to the development of the most appropriate construction and arrangement types based on use in order to optimise each and every transfer.



DHB
This pump is typically used in the sludge cake treatment field with double bridge breaker shaft

FLOW CHART



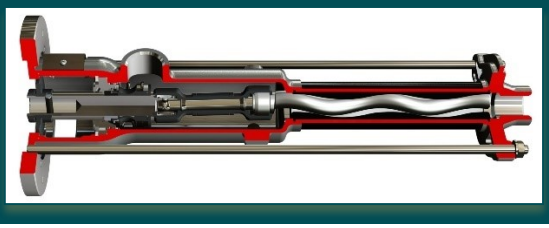
Application (refer to the above diagram):

1. **DM:** Dosing pump for injection of plyelectrolite. The polyelectrolyte is added to the sludge line before the dewatering stage to optimize flocculation and separation.
2. **DN:** pump specifically designed for heavy-duty application, used for pumping from the thickened sludge storage tank to the various dewatering systems . **TG** grinder installed before the progressing cavity pumps on wastewater plant pipelines to reduce solids and protect pumps
3. **DHB:** hopper pump with double bridge breaker shaft for transferring treated sludge to silos, tanks or vats
4. **DHS:** pump used to transfer treated sludge from the centrifuge or screw press to silos, tanks or vats
5. **DHS:** pump coupled directly to the silo for pumping treated sludge
6. **DHSB:** DHS model pump fitted with “B” module for transferring sludge from a silo to a dryer or incinerator which is the final stage, that is, the removal of residual moisture, in the sludge treatment plant illustrated above

APPLICATIONS

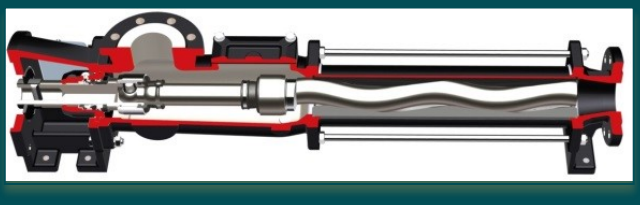
Products for the sludge treatment industry

DM Dosing SERIES



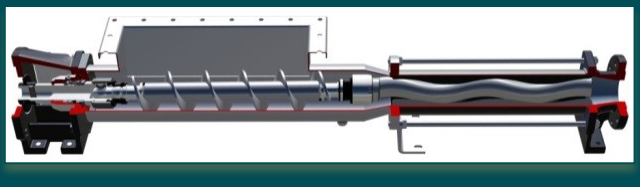
Dosing industrial series, are the best solution for the industrial sector in the dosing of a wide range of fluids. They are a byword for stability, reliability, performance and application flexibility.; available with UNI, DIN and ANSI flanged and GAS BSP threaded connections.

DN SERIES



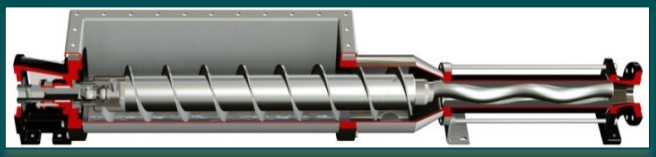
Flanged industrial series ideal for heavy duty applications.
It is the best solution for the industrial sector for pumping a vast range of fluids; available with UNI, DIN and ANSI flanged and GAS BSP threaded connections.

DH SERIES



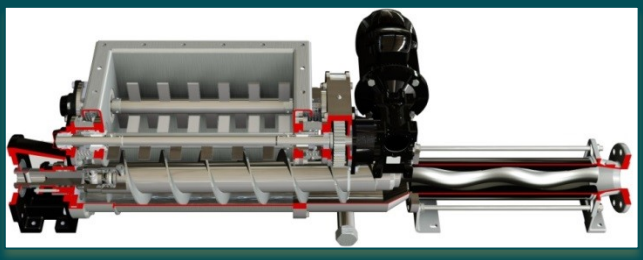
Standard model equipped with hopper and auger feed screw to move the product to the hydraulic part. Suitable for pumping materials with a low degree of flowability and prone to bridging.

DHS SERIES



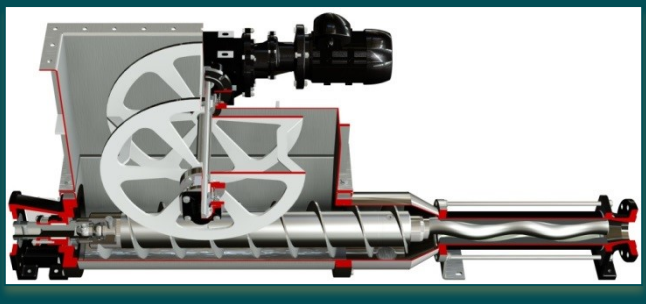
Model featuring a rectangular hopper, with joint protection sleeve and enlarged auger feed screw to move the product to the hydraulic part. Suitable for pumping high viscosity materials with low flowability and up to 28% solids content not prone to bridging.

DHB SERIES



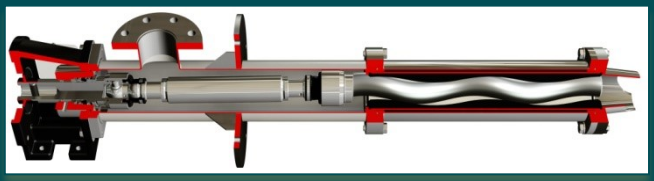
Model featuring a hopper with double bridge breaker shaft, joint protective sleeve and enlarged auger feed screw to move the product to the hydraulic part. Suitable for pumping highly viscous, non-flowing materials with up to 35% solids content prone to bridging or in blocks.

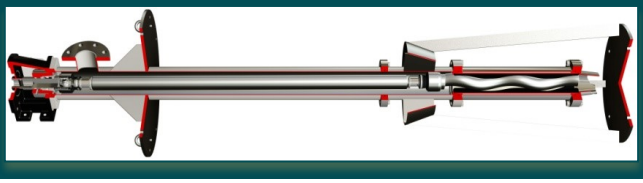
DHSB SERIES (DHS with "B" MODULE)



This model features a rectangular hopper, joint protection sleeve and an enlarged auger feed screw to move the product to the hydraulic part. A “B” Module is installed on the hopper which feeds the screw by means of a wheel device to prevent bridging. Suitable for pumping non-flowing materials with up to 40% solids content prone to bridging and plasticizing.

DV VERTICAL SERIES





Vertical Series developed for pumping from tanks and wells immersed directly in the product to be pumped. The length can be adapted to suit the installation requirements. The stainless steel version (AISI 304 or AISI 316) is supplied with a stator jacket as standard to prevent corrosion of the stator. Two standard configuraions are available: the short version and the long version with split casing and bottom mounted guiding cone.

TG TERMIANTOR SERIES - MACERATOR

Terminator Series
Grinders are installed before the progressing cavity pumps on wastewater plant pipelines to reduce solids and protect pumps and filters. block the inorganic material, organic stay in the process.
Protect critical equipment from damages due to tough solids.

APPLICATIONS

DHS pump

Hopper pump DHS series used after filter press for the recycling of the dried sludge into a collector tank.

DN pump
DN series used for sludge transfer in a waste water treatment plant.

DN pump
DN series used for chemical thickened sludge transfer to the centrifuge.

DM pump
DM Dosing Series for Polyelectrolyte Transfer in Sludge Wastewater Treatment Plants.
In the pictures, you can see the difference between the **older MN series** and the **new DM series**.

- **Same capacity**
- **More compact design**
- **more option e.g., inverter integrated on the pump**

The **DM series** delivers reliable and precise dosing in a smaller footprint, making it ideal for modern wastewater and sludge treatment applications

TG Terminator Series
Grinders upstream of progressive cavity pumps to prevent damage and clogging from solid bodies..

CONTACT US FOR A CONSULTATION

At Nova Rotors, we are committed to providing reliable and high-efficiency progressive cavity pump solutions for water treatment and wastewater applications. Our hygienic and robust pumps are specifically designed to handle challenging fluids, including sludge, wastewater, and chemical additives, ensuring safe, efficient, and continuous operation while protecting equipment and process integrity.

If you're looking to optimize your water treatment operations with **efficient, durable, and easily maintainable technology**, we invite you to contact our team for a personalized consultation. Our experts will assess your specific needs—whether it's for **pumping sludge, dosing chemicals, or managing wastewater streams**—and help you configure a custom pump solution that maximizes process efficiency, reliability, and long-term performance.

Whether you need assistance **selecting the right model, integrating it into your treatment line, or maintaining consistent performance over time**, our technical team is ready to support you with responsive and knowledgeable service.

Contact us today and discover how Nova Rotors can enhance your water and wastewater treatment process with tailored, high-performance pumping solutions.

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Via Carlo Cattaneo, 19/25
36040 SOSSANO (VI)
ITALY

Phone: +39-0444-888151
Fax: +39-0444-888152
E-Mail: sales.novarotors.com
Web site: www.novarotors.com

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