



**OUR POWER, YOUR SATISFACTION**



PRODUCT RANGE

**DIAMOND SERIES**  
**RAPTOR SERIES**  
**WOBBLE SERIES**  
**TERMINATOR SERIES**

## THE COMPANY, ABOUT US



Nova Rotors was founded in 1990. Nowadays we are a national benchmark in the manufacturing and selling of progressing cavity and twin screw pumps, wobble pumps and grinders.

.Our pumps are distributed throughout the world and applied in different sectors. From wastewater treatment plants (civil and industrial), oil & gas API standards, oenological, food and dairy sectors, and to the pharmaceutical industry 3A sanitary standard. They satisfy the most varied demands and application requirements.

Nova Rotors is situated in one of the most industrialised areas in Europe and has recently completed the construction of a new factory which is equipped with facilities for the production and testing of its pumps using the latest technologies available on the market.

The company's strategy is totally focussed on achieving the best quality and standardisation of its processes and products applied to each specific sector.

This choice enables us to produce innovative, highly technological products unique in the panorama of progressive cavity pumps.

We employ a computerized design and production process capable of controlling the quality targets throughout the manufacturing process as well as highly skilled personnel who are particularly receptive to customer demands. Nova Rotors is an ISO 9001:2015 and ISO 45001:2018 certified company and implements the latest organizational techniques, based on "LEAN THINKING" and PLM (Product Life-Cycle Management) concepts, in order to guarantee high product quality and efficient, prompt service.

We are qualified to produce ATEX certified pumps intended for use in potentially explosive atmospheres.

Our product line features a vast selection of models and construction types covering a capacity range up to 520 m<sup>3</sup>/h and operating pressures up to 48 bar, which enable us to meet all possible market demands. Our history of new designs, customisations and innovations are testimony to the attention and dedication Nova Rotors devotes to its customer's needs.



### INDUSTRIAL RESOURCES

5000 square meters of surface area, of which 3500 square meters are covered. Warehouse and spare parts: 1500 square meters.

High-precision processing machines, internal welding department as well as assembly area, testing area, and painting facility.

Internal R&D, specialized design & engineering



## PROGRESSIVE CAVITY PUMPS, CHARACTERISTICS

Nova Rotors specialises in the construction of progressive cavity pumps. This type of pump is highly flexible in terms of operation and application, a factor which has enabled it to achieve considerable market success. Its unique features makes it suitable for use in a variety of different industries.

The main features of this type of pump are:

- Uniform flow proportional to the speed.
- Self-priming with a maximum suction lift capacity up to 8 mWC (low NPSHa application), depending on the size, the number of stages and pump speed.
- Capacity to pump heterogeneous products, containing gases, solid, abrasive and fibrous materials in the liquid matrix.
- Pumping of liquids with low or high viscosity.
- Liquid dosing capability.
- Low pulsation pumping with minimum tensile strain of the product being processed.
- High pumping pressure (6 bar per stage). Pumps are available with one to eight stages, depending on the required pressure.

The progressive cavity pump is a volumetric, self-priming, rotary positive displacement device. The “conveying” parts consists of two elements, the rotor and the stator. The rotor, typically metallic, is single or multiple screw with a rounded thread, extremely large pitch, considerable length and high eccentricity in relation to the core diameter.

The stator, typically elastomeric, is embedded with a cavity in the shape of a 2 or multiple screws, double threaded, compared to the rotor, and with the same eccentricity.

The rotor, rotating within the stator, is forced to perform a hypocycloid roto-translational movement. This coupling of the two elements always creates a line of contact along the profile that guarantees the seal between them. This movement creates an airtight chamber that shifts with a helical movement, from the suction casing to the delivery casing.

The Diamond series features a patented universal pin joint that ensures top performance and unprecedented flexibility of use. The standardization throughout the entire range of products achieved with this joint has resulted in optimal spare parts management as well as simplified and economical maintenance, without sacrificing reliability and long life.

### **N - Flanged Industrial Diamond series**

The Flanged Industrial Series is the basis of the Diamond series.

The robust cast casings, also in the stainless steel model, with large inspection ports included, make this an ideal product for the toughest applications. The Diamond DN and JN series are the best solution for a wide range of fluid pumping industries. They are synonymous with sturdiness, reliability, performance and application flexibility. Available with UNI, DIN and ANSI flanged and GAS BSP threaded connections.

The drive system is coupled directly to the pump by means of a flange. This solution is extremely economical and compact, considerably reduces installation costs and simplifies maintenance. The forces generated by the hydraulic part are supported by the drive system itself.

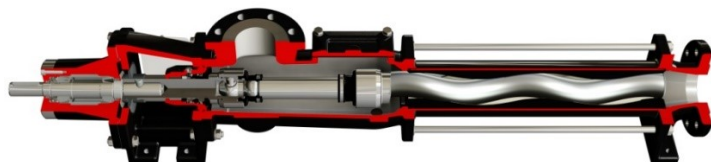
The drive is connected to the free bare shaft via a flexible coupling. This solution is the best solution in terms of performance and durability. All the forces generated by the pump are absorbed by the bearings. The bearing unit of our design is modular and can be installed at a later date in a close-coupled pump of the DN series.

**FN Series:** The drive is connected directly to the pump via a flange of the modular bearing unit. This is the most versatile solution because it allows to use gearbox with flange and standard output shaft, the connection with hydraulic and pneumatic motors, by keeping the simplicity and the compactness of the classic coupling flange solution and at the same time it ensures total reversibility and higher performance of the bearing unit.

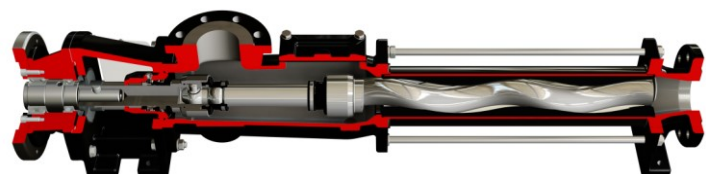
**DN SERIES**



**JN SERIES**



**FN SERIES**



**H - Hopper pumps Diamond series**

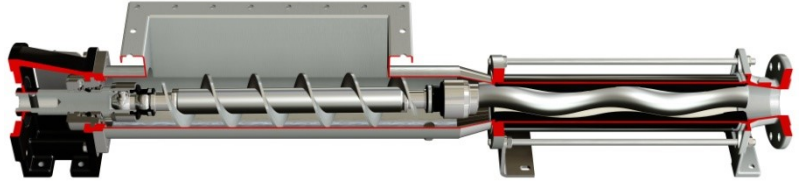
The open hopper pumps with hydraulic auger feed screw are ideal for handling high-consistency materials with a low degree of flowability and high solid content.

They are available in 7 different construction types, each with different screws and hoppers based on the type of product to be pumped. All pumps can be made with a close coupled arrangement or a bearing unit arrangement and free bare shaft (JH SERIES, JHS SERIES, JHP SERIES, JHB SERIES and JHSB SERIES) excepting the DHE SERIES which has a built-in gear motor.

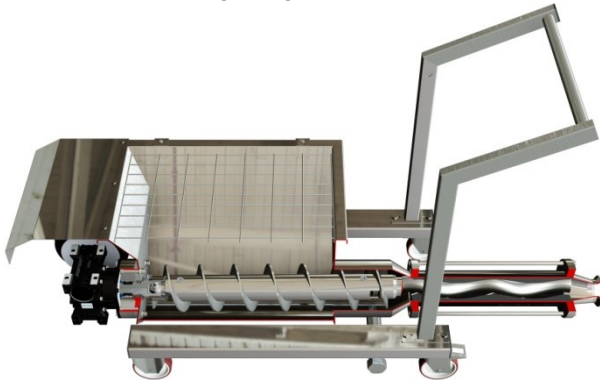
Standard model equipped with rectangular hopper and an auger feed screw that moves the product to the hydraulic part. The length can be adapted to suit the application.

Suitable for pumping materials with low flow-ability and up to 18% solids content which do not create or have a tendency to bridge.

**DH SERIES**



**DHE SERIES**



This model has a large eccentric hopper, with integrated trolley, ideal for the wine industry in conjunction with destemmers-crusher. For pumping crushed grapes with or without stems. Extremely compact standard construction with all parts made from AISI 304 stainless steel.

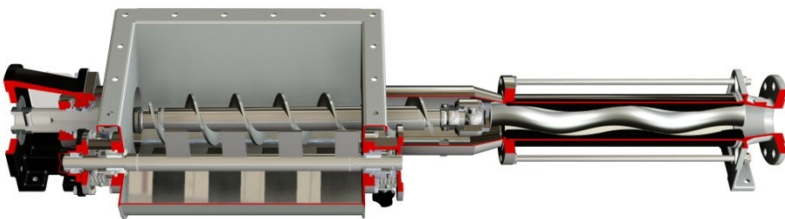
The worm gear motor significantly reduces the pump's footprint. The pump is supplied with a safety mesh on the hopper, protection guard for the drive system and a large handle that can accommodate electric panels and inverters. It can be supplied with a level probe on the hopper for automatic shutdown of the pump.

This model features a rectangular hopper and enlarged auger feed screw that moves the product to the hydraulic part. The length can be adapted to suit the application. Suitable for pumping high viscosity materials with low flow-ability and up to 28% solids content which do not tend to bridge. The screw drive shaft features a special integrated joint protection.

**DHS SERIES**



**DHP SERIES**

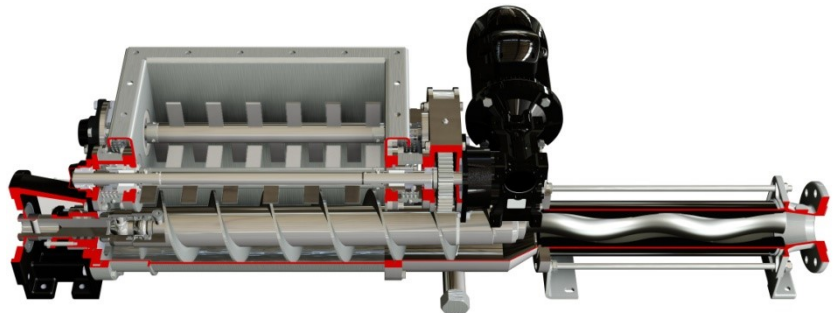


Model fitted with wide hopper, single bridge breaker shaft and auger feed screw that moves the product to the hydraulic part. Easy handling of materials with a low degree of flow ability and prone to bridging. Particularly suitable for easily compressible, large mixtures or solid materials such as whole fruits and vegetables. Ideal for food applications such as grapes, whole fresh grapes, chopped tomatoes or doughs for the confectionery industry. Standard AISI 304 or AISI 316 stainless steel construction. No dead zones and easy to clean design.

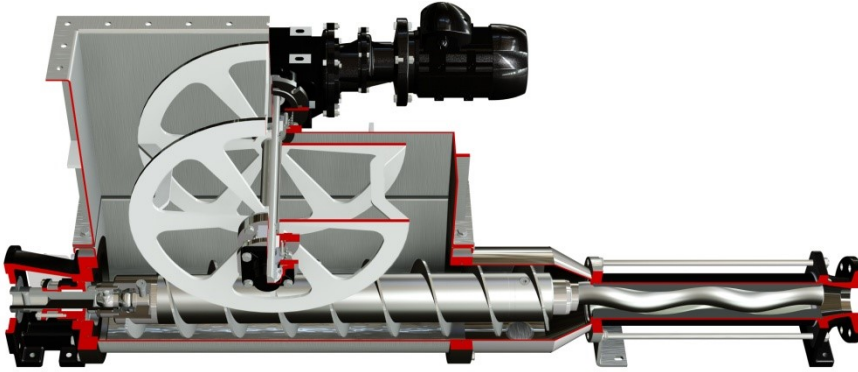
This model features a hopper with double bridge breaker shaft and an enlarged auger feed screw that moves the product to the hydraulic part. The length can be adapted to suit the application. Suitable for pumping highly viscous, non-flowing materials with up to 35% solids content with blocks that tend to bridging.

The screw drive shaft features a special integrated joint protection.

**DHB SERIES**



### DHSB SERIES (DHS with "B" Module)

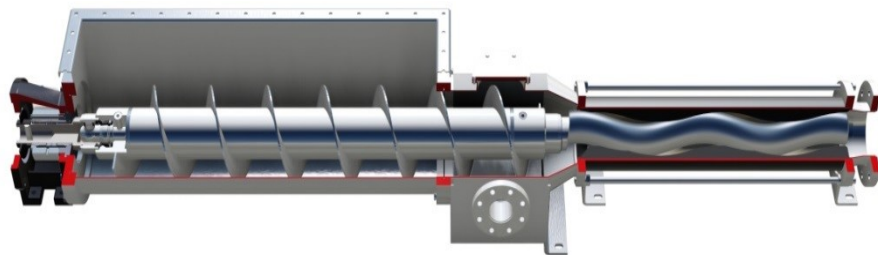


This model features a rectangular hopper and an enlarged auger feed screw that moves the product to the hydraulic part. The hopper is fitted with a "B" Module which features a special wheel device that feeds the screw to prevent bridging and increase flow ability of the plastic or pseudo plastic materials. Suitable for pumping non-flowing materials with up to 40% solids content with blocks that tend to bridging.

It is particularly effective in pumping products that tend to plasticize. The screw drive shaft features a special integrated joint protection.

This model features a rectangular hopper and an enlarged auger feed screw that moves the product to the hydraulic part. It is designed for the Biogas sector for pumping silage with the injection of phase liquid at the inlet to increase pump-ability of the solids. The separate inlet provides the connections for the injection of liquids and has a rectangular bottom for collecting any stones that might enter the hopper and be conveyed away by the screw. This avoids damage to the hydraulic section. Moreover, a large additional inspection port is provided with quick couplings for easy removal of solid deposits from the inlet.

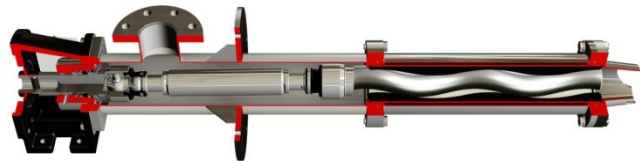
### DHS-T SERIES



### V - Vertical Diamond series

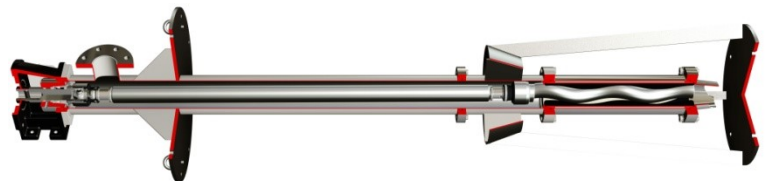
The Vertical series is the ideal solution for pumping viscous or non-viscous, abrasive and aggressive materials from tanks and wells. These pumps are available with UNI, DIN and ANSI and GAS BSP discharge flanged connections; whereas the liquid suction port is designed specifically for priming the product in which it is immersed. 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.

### DV SERIES "SHORT VERSION"



There are two standard configurations: the short version and the long version. The difference is in the installation length with which they are constructed. The short version is compact robust and very easy to install. Whereas the long version is ideal for installation in deep wells or tanks and feature a number of dedicated optimizations such as the removable inlet for easy maintenance of the rotor, stator and coupling. A fundamental feature is the downhole plate with clamping cone to make the pump extremely stable and vibration-free even in extreme conditions of use.

### DV SERIES "LONG VERSION"



They are always constructed in the close-coupled version.

**X - HX – Hygienic Diamond Series**

The sanitary pump series is state-of-the-art and ideal for the food, pharmaceutical, chemical, and cosmetic industries. The complete sanitary design, compliant with EHEDG and 3A standards, ensures maximum cleanability and is manufactured in accordance with the EC 1935/2004 food regulation. These pumps are top rated for "Clean in Place" and "Sterilisation in Place" procedures.

The geometry of the pumps is designed specifically to allow complete draining and avoid dead zones. Each single component is manufactured with the utmost attention to finishing details and is thoroughly cleaned.

As well as the parts that come into contact with the product, the block construction and base (when requested) are also made of stainless steel (standard in AISI 304).

The available fittings include DIN 11851, DIN 11864, Clamp ISO 2852, Clamp ASME-3A, Clamp DIN 32676, RJT, SMS 1145 and lastly Garolla and Macon fittings for the wine industry.

The complete range of pumps can be manufactured with block construction (DXO SERIES and DXC SERIES) or bearing unit and free bare shaft (JXO SERIES, JXC SERIES).

**DXO SERIES**

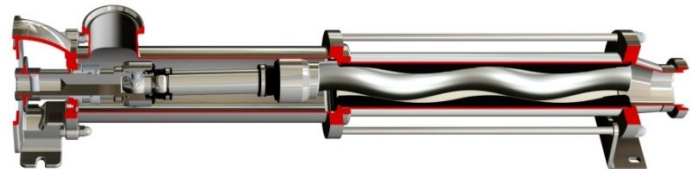


The DXO series is a hygienic pump with open joint. The design of its casing and rotating parts ensures that they are completely free of stagnation points and dead zones, making it the absolute best for sanitary applications. The pin-type joint has been suitably sized to ensure a long life. Lubrication of the joint is guaranteed by the actual product thanks to its open design, consequently it is suitable for non-abrasive fluids. Performance improves considerably when pumping lubricants

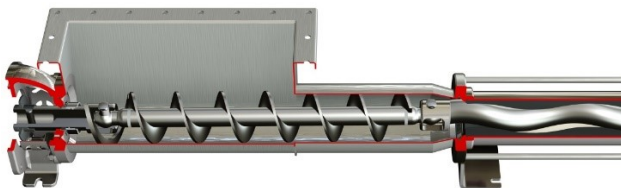
**DXC SERIES**

The DXC series is a hygienic pump with closed pin joint (standard to the DN series) and ideal for abrasive sanitary applications. In all other respects it maintains all the sanitary features of the DXO series.

Lubrication of the pin is independent of the pumped product, consequently it is also suitable for abrasive fluids.



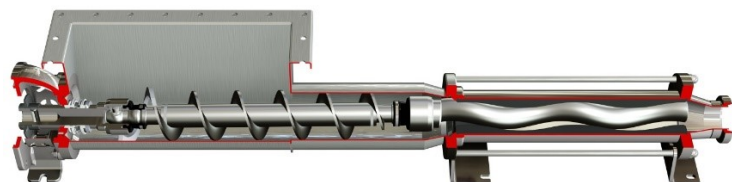
**DHXO SERIES**



The DHXO series represents the pump with an open joint hopper. It is the solution with the best sanitization features, thanks to the casing and rotating parts design, which are completely free of dead zones and stagnation. The pin-type joint has been properly dimensioned to ensure a long service life.

**DHXC SERIES**

The DHXC series represents the pump with a standard hinged hopper from the DN series. It is the solution that combines excellent sanitization features thanks to the casing design, which is completely free of dead zones and stagnation, along with the performance of the patented pin-joint from the Diamond series.



### M - Industrial Dosing Diamond Series

The Diamond M 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. Designed according to the most demanding of requirements, they are suitable for the dosing of viscous and non-viscous substances, with or without solids of any nature, they are the ideal solution for those looking for a standard high-tech product with a cost benefit ratio which is unparalleled in the current landscape of progressive cavity pumps. Available connection: BSP. The DM, JM and FM series is distinguished by the type of coupling of the pump to the drive.

#### DM SERIES

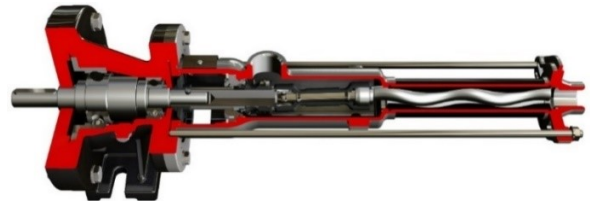
The drive is coupled directly to the pump via a flange. This solution is highly economical and compact, and significantly reduces installation costs and simplifies maintenance. The stresses generated by the hydraulic section are taken up by the drive itself.



#### JM SERIES

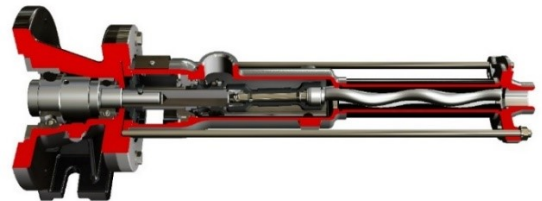
A version with male shaft (JM SERIES) or flanged (FM SERIES) with bearing support.

The motor is connected to the pump's input shaft via a coupling joint. This represents the best solution in terms of performance and durability. All forces generated by the pump are absorbed by the bearings in the support.



#### FM SERIES

flanged FM SERIES with bearing support, allows the use of gearboxes with standard flange and output shaft, the coupling with hydraulic or pneumatic motors, maintaining the simplicity and compactness of the classic monobloc solution and at the same time guaranteeing total reversibility and superior performance of the support bearings.



### MX Sanitary Dosing Diamond Series

The Diamond MX, and MXF series are the best solution for the food, pharmaceutical, chemical and cosmetic industries and is manufactured in accordance with the EC 1935/2004 food regulation. These pumps are top rated for "Clean In Place" and "Sterilizing In Place".

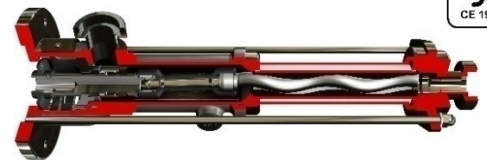
The available connection are DIN 11851 DIN 11864-1 / DIN 11864-2 / DIN 11864-3 Clamp ISO 2852, Clamp ASME-3A, Clamp DIN 32676 RJT SMS 1145.

The DMX, JMX and FMX series is distinguished by the type of coupling of the pump to the drive.

#### DMXC SERIES

The drive is coupled directly to the pump via a flange. This solution is highly economical and compact, and significantly reduces installation costs and simplifies maintenance.

The stresses generated by the hydraulic section are taken up by the drive itself.



#### JMXC SERIES

A version with male shaft (JM SERIES) or flanged (FM SERIES) with bearing support.

The motor is connected to the pump's input shaft via a coupling joint. This represents the best solution in terms of performance and durability. All forces generated by the pump are absorbed by the bearings in the support.



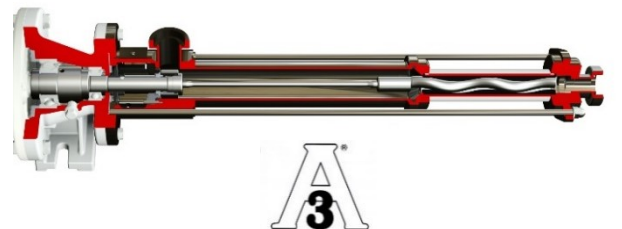
#### FMXC SERIES

flanged FM SERIES with bearing support, allows the use of gearboxes with standard flange and output shaft, the coupling with hydraulic or pneumatic motors, maintaining the simplicity and compactness of the classic monobloc solution and at the same time guaranteeing total reversibility and superior performance of the support bearings.



#### DMXF SERIES (3-A sanitary standard certified)

The drive is directly coupled to the pump flange, ensuring a cost-effective compact solution that reduces installation costs and simplifies maintenance. The hydraulic forces are absorbed by the drive itself, which is carefully selected based on specific technical parameters and tested under heavy loads. The use of a flexible titanium shaft allows the stator to rotate and move without mechanical joints, ensuring greater sanitation reliability and durability 3-A certified.



**R – RL Wobble Pumps Series**

The wobble series of pumps is the ideal solution for applications requiring an extremely compact and versatile product. The small number of parts used in its construction makes maintenance simple and economical. It can be used in a broad range of industries because of its capacity to pump viscous products containing solids in the fluid or slightly abrasive products. It is ideal for those seeking an economical yet efficient product, as it boasts an unparalleled cost/benefits ratio. Pumping is pulse-free and the centrifugal effect is almost totally absent even at high speeds. The absence of dead zones inside the pump makes it suitable for use in the food industry as well.

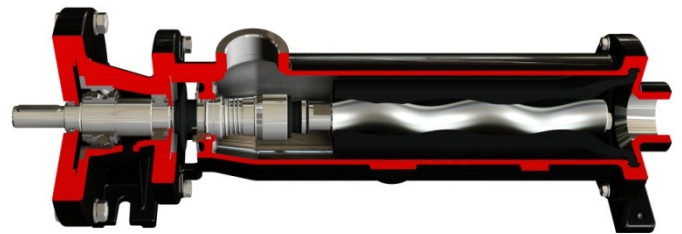
The R and RL series pumps are all constructed with robust cast iron and stainless steel (AISI 304 and AISI 316) bodies made with lost wax casting technology. There is also a version manufactured in accordance with the EC 1935/2004 food regulation. Available with threaded GAS BSP fittings, and on request we can supply DIN 11851 type adapters.

**RL SERIES**



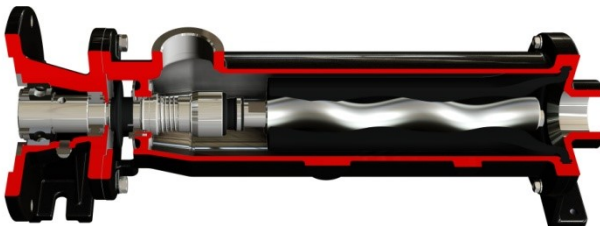
The RL series is an extremely compact product thanks to the integrated pump-electric motor construction. The patented pin joint of the Diamond series ensures high reliability. The support between the body pump and drive unit has been eliminated which makes the pump more compact and easier to maintain.

**RJL SERIES**



The RJL series is based on the same technology as the RL series. The difference lies in its use of a bearing unit and free bare shaft. The RJL series can be connected to the drive with a flexible coupling. The ideal solution for the supply of a bare shaft pump. The bearings ensure the highest reliability in all operating conditions.

**RFL SERIES**



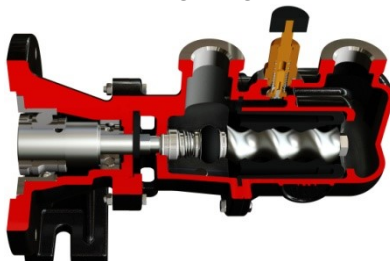
The RFL series is based on the same technology as the RL series. The difference lies in its use of a bearing unit with plug-in shaft. The RFL series can be flanged directly to the drive. This is the ideal solution for the supply of a pump without a drive system, while maintaining compactness and easy installation. The bearings ensure the highest reliability in all operating conditions.

**R SERIES**



The R series is the most compact product available due to its integrated pump-electric motor construction and an extremely short hydraulic section. It uses a cross joint, is reliable and easy to maintain. The support between the body pump and drive unit has been eliminated which makes the pump more compact and easier to maintain.

**RF SERIES**



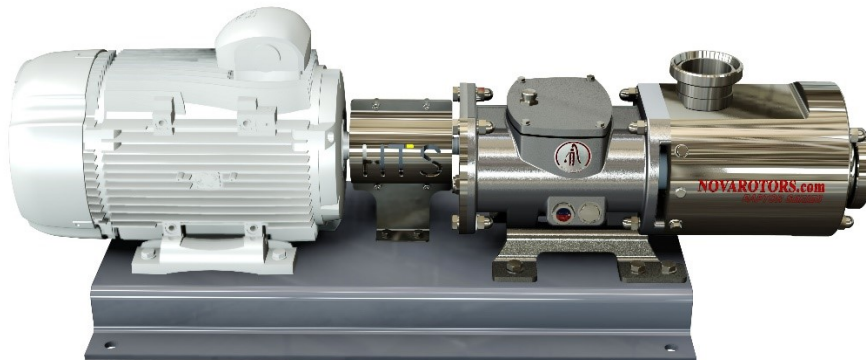
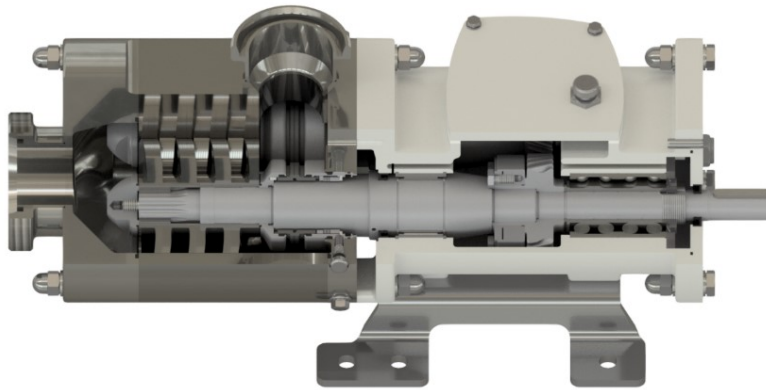
The RF series is based on the same technology as the R series. The difference lies in its use of a bearing unit with plug-in shaft. The RF series can be flanged directly to the drive. This is the ideal solution for the supply of a pump without a drive system, while maintaining compactness and easy installation. The bearings ensure the highest reliability in all operating conditions.

### **HTS - Raptor Hygienic Twin Screw Series**

The HTS Raptor series represents the pinnacle of hygienic twin screw technology, designed to achieve the highest levels of sanitation for the food and pharmaceutical markets. We take pride in the robust design of our product, featuring oversized shaft and bearing dimensions for enhanced durability. 3-A Sanitary standard certified. Manufactured in accordance with the EC 1935/2004 food

#### **Main Features:**

- **Gentle Treatment:** Low pulsation due to axial conveying of the product.
- **High Suction Capability:** Operates with low NPSHr values.
- **Dry Running Capability:** Rotors and pump casing do not make contact, allowing for dry running with flushed seals.
- **CIP and Process Integration:** Capable of Clean-In-Place (CIP) with only one pump.
- **High Pressure and Flow Rate:** Compact design offering high efficiency.
- **Viscous Liquid Handling:** Suitable for liquids with viscosities up to 1,000,000 cps.
- **Solid and Abrasive Product Handling:** Designed to manage solids and abrasive materials.
- **Easy Maintenance:** Quick and straightforward maintenance procedures.
- **3-A Sanitary standard certified**
- **EC 1935/2004 food contact**



## **TG - Terminator Grinder Series**

### **Welcome to the "New Era" of Grinders!**

A uniform and efficient solid treatment is essential in wastewater treatment applications and sludge management systems. However, finding the right solution at the right cost can be challenging.

Our TG series for solid size reduction is one of the most innovative solutions on the market. Designed specifically for use with industrial progressive cavity pumps, it efficiently eliminates and grinds solids that are difficult to pump, making it ideal for the waste treatment sector.

### **Efficient solid treatment for wastewater and sludge management**

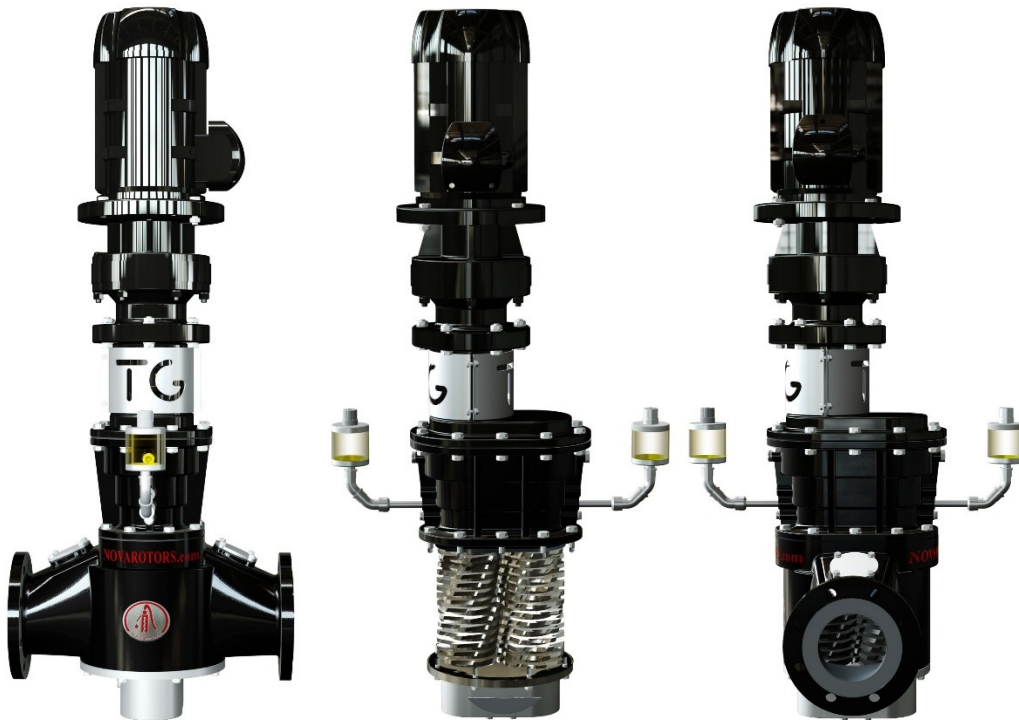
A uniform and reliable solids treatment is essential in wastewater purification, sludge handling, and other industries to prevent harmful solids from entering pumping systems.

Our **TG series grinders** provide one of the most innovative solutions on the market, combining a robust design with flexible internal configurations. The result: maximum protection, reduced downtime, and significant cost savings.

### **Key benefits:**

- Protects downstream equipment and pumps from harmful solids
- Extends the lifetime of wear components
- Minimizes unexpected downtime
- Efficiently separates inorganic from organic material, improving process quality
- Reduces operational costs with smaller pumps, shorter cycles, and lower energy use

Available on request with electrical panel and automatic reversing system in case of overload.







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