

DIAMOND SERIES

Pumping your success

Applications



- 1 Modular bearing unit
- 2 Plug-in shaft
- 3 Lantern
- 4 Shaft seal
- 5 Patented pin joint
- 6 Transmission shaft
- 7 Pump body with flange
- 8 Inspection port
- 9 Rotor
- 10 Output flange

Flanged Industrial Series

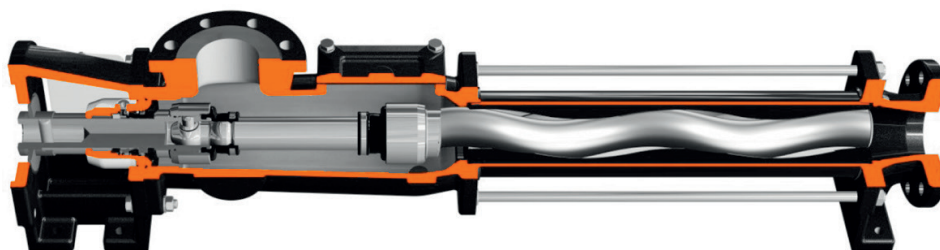
The **DN** and **JN Diamond series** is the best solution for the industrial sector in pumping a vast range of fluids. They are synonymous with strength, reliability, performance and application flexibility.

Designed according to the most demanding standards, they comply with the requirements of standard API 676.

Suitable for pumping viscous and non-viscous products, with or without solids of any nature, they are an ideal solution for those seeking a standard product with advanced technology with unbeatable cost benefits in the current single screw pumps market.

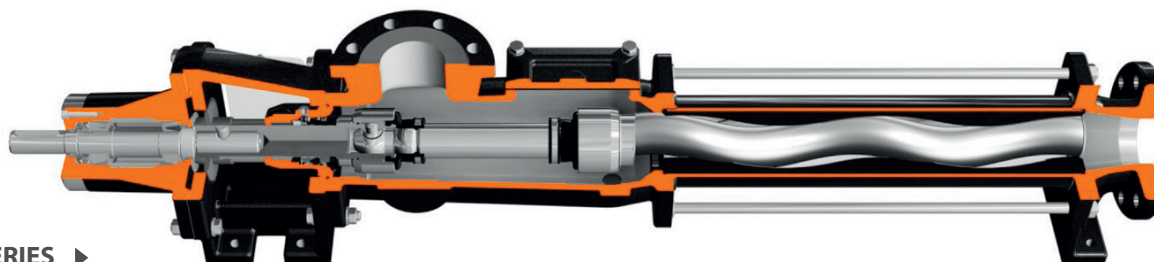
The **DN** and **JN series** are distinguished for the type of fitting of the pump to the drive

- **DN Series:** the drive is coupled directly to the pump via a flange. This solution is extremely cost effective and compact, considerably reducing installation costs and simplifying maintenance. The forces generated by the hydraulic part are supported by the drive itself. Each drive used is adequately selected based on their specific technical parameters and are subject to numerous duration tests with heavy loads. The DN series is the reference point for almost all pumps installed in the industry.



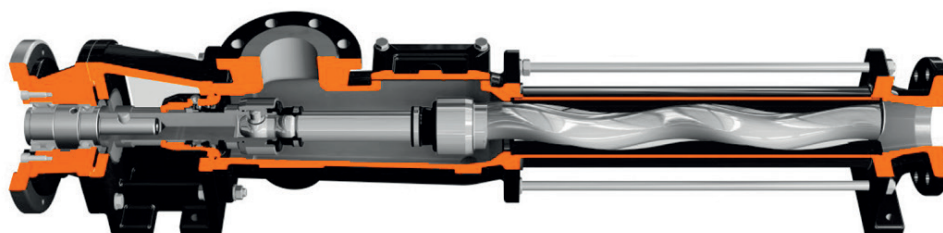
◀ DN SERIES

- **JN Series:** 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 in the housing. These bearings have very high resistance against loads. They are assembled with extreme precision on the highest quality manufactured parts. It is the best solution when you want to guarantee duration and reliability, yet with greater installation space requirements. The bearing unit designed by us is modular and can be adapted to a DN series pump with lantern. It is state of the art for this type of installation.



JN SERIES ▶

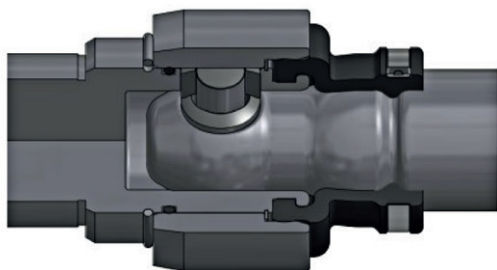
- **FN Series:** The drive is connected directly to the pump via a flange of the modular bearing unit. This is the most versatile solution because it allows to use gearbox with flange and standard output shaft, the connection with hydraulic and pneumatic motors, by keeping the simplicity and the compactness of the classic coupling flange solution and at the same time it ensures total reversibility and higher performance of the bearing unit. This modular bearing unit can be applied on all the Diamond series pumps and it allows a quick maintenance of the drive. FN is synonym of modularity and reliability with any kind of drive.



◀ FN SERIES

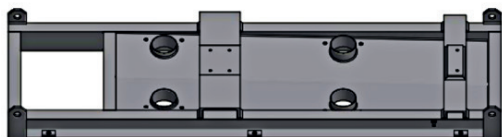
Patented Pin Joint:

The pin-type joint, the actual heart of the single screw pump, is the best solution of its type on the market. It offers greater durability, reliability and reduced maintenance costs, managing to combine extreme compactness with unrivaled strength. Its special construction allows the sub-division of axial loads and torque in different elements, making it one of a kind. As well as the above, replacement of worn parts is cheap thanks to the bushes in the worn zones, avoiding costly replacement of parts (rotor, drive shaft, and female drive shaft). To resist high pressure in the pump casing up to 12 bar, the joint can be hydraulically balanced.



Base plates:

The base plates, characterized by considerable thicknesses are very strong. Available in carbon steel or stainless steel. They can also be provided according to standard API 676, in a trolley version, with anti-vibration housing or on skids, according to the client's specifications.



Materials:

The parts in contact with the product of the DN and JN Diamond Series pumps can be manufactured in various materials. From the version in cast iron to stainless steel (AISI 304 and AISI 316), as well as other materials on request such as Duplex and Super Duplex. Also, in the version in cast iron, the rotating parts are still manufactured in stainless steel AISI 420 or on request in AISI 304 / AISI 316.

Low pulsating flows:

Tensional stress and pulsating flow are very low. The centrifugal effect is reduced to a minimum thanks to the low operating speeds and mainly the axial development of the pump.

Performance:

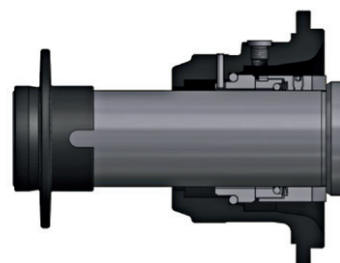
Duration, efficiency, reliability and low consumption. With the Diamond series, we have reached the maximum levels of technological development in every aspect.

Shaft sealing:

Different sealing systems can be installed, each solution being suitable to specific usage. The types available are: single mechanical seal, internal or external, single mechanical seal with quench, double mechanical seal back to back or tandem, gland packing with flush or without.

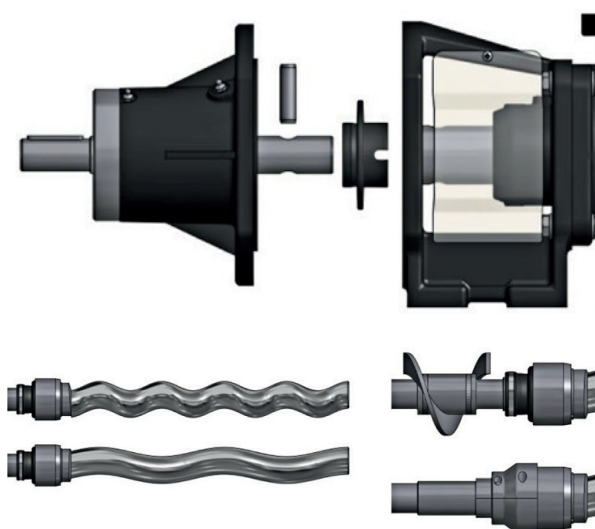
The shaft seal variants are all interchangeable on the standard pump. Each solution was carefully engineered while taking into consideration all the operating conditions. As well as changing the type of shaft seal, you can also install various types of mechanical seals based on the application.

The compartments are suitable for installation of the seals manufactured according to the standards ISO EN 12756. As well as this, it is possible to use cartridge seals from the main manufacturers, also available according to standards API 682 category 1 and 2.



Modularity:

The Diamond series is based on the concept of modularity in every characteristic: hydraulic parts, casing, seals, base plates, housing, drive shafts. Each part can be manufactured in a series of variants without changing the structure of the machine, while keeping the main spare parts standard.



Efficiency:

Maximum performance level, exceptional operating efficiency thanks to the optimum volumetric yield and high pressure and is consumption reduced to a minimum. All the Diamond series hydraulics efficiencies were calculated to guarantee the maximum found on today's market.

Motorizations:

All the drives which are installed on the Diamond series have been tested for long periods and subject to strict and rigorous technical checks. We can install both electric and hydraulic motors.

All the models of reducers and variators present determined characteristics in terms of strength, size of the bearings and the quality of the gears.

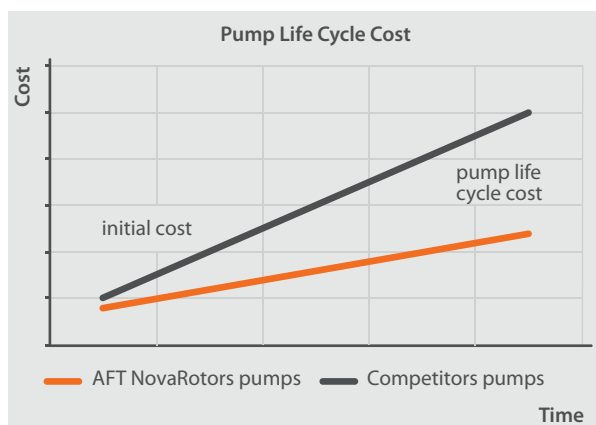
Maintenance:

The Diamond series is designed to ensure easy maintenance and normally require the replacement of a minimum number of components. In particular the joint bushes allow the replacement of the cheap parts, simultaneously protecting costly rotors and shafts. The costs of maintenance are really reduced. The cost of the pump, considered in his full life cycle, is highly competitive.



Cost / benefit:

The Diamond series, thanks to the compactness of its elements combined technical success without comparison at very competitive costs. The modularity allows you to make the right solutions depending on the application to avoid paying for features you do not need, all in favor of its competitiveness.



Ease of installation:

The pumps of the Diamond series are easy to install due to compactness, simplicity of operation and operational flexibility thanks to the various features included.

Versatility:

The Diamond series was designed to be versatile whatever its use. For this reason it can be set up with various options and accessories suitable for every field of application. As well as the above, the special features of the single screw pump are naturally taken advantage of with various types of fluids pumped, from low to the highest viscosity, clean and containing solids varying in size and nature.

Quality:

Each part is manufactured according to the highly restrictive quality specifications. The finishes and precision of each part are the basis of every pump manufactured. All parts are subject to specific controls based on their characteristics and functionality.

Self-priming:

The properties of the hydraulic parts of the progressive cavity pump allow excellent self-priming (up to 7m). The Diamond series was designed to create the minimum loss possible in the pump body, thanks to enlarged sections and a compact design of a joint.

Detailed documentation:

Each pump comes with clear and detailed operating instructions. Orders are followed by experienced and qualified staff that prepare a specific and detailed documentation for every individual pump.



In cooperation with

