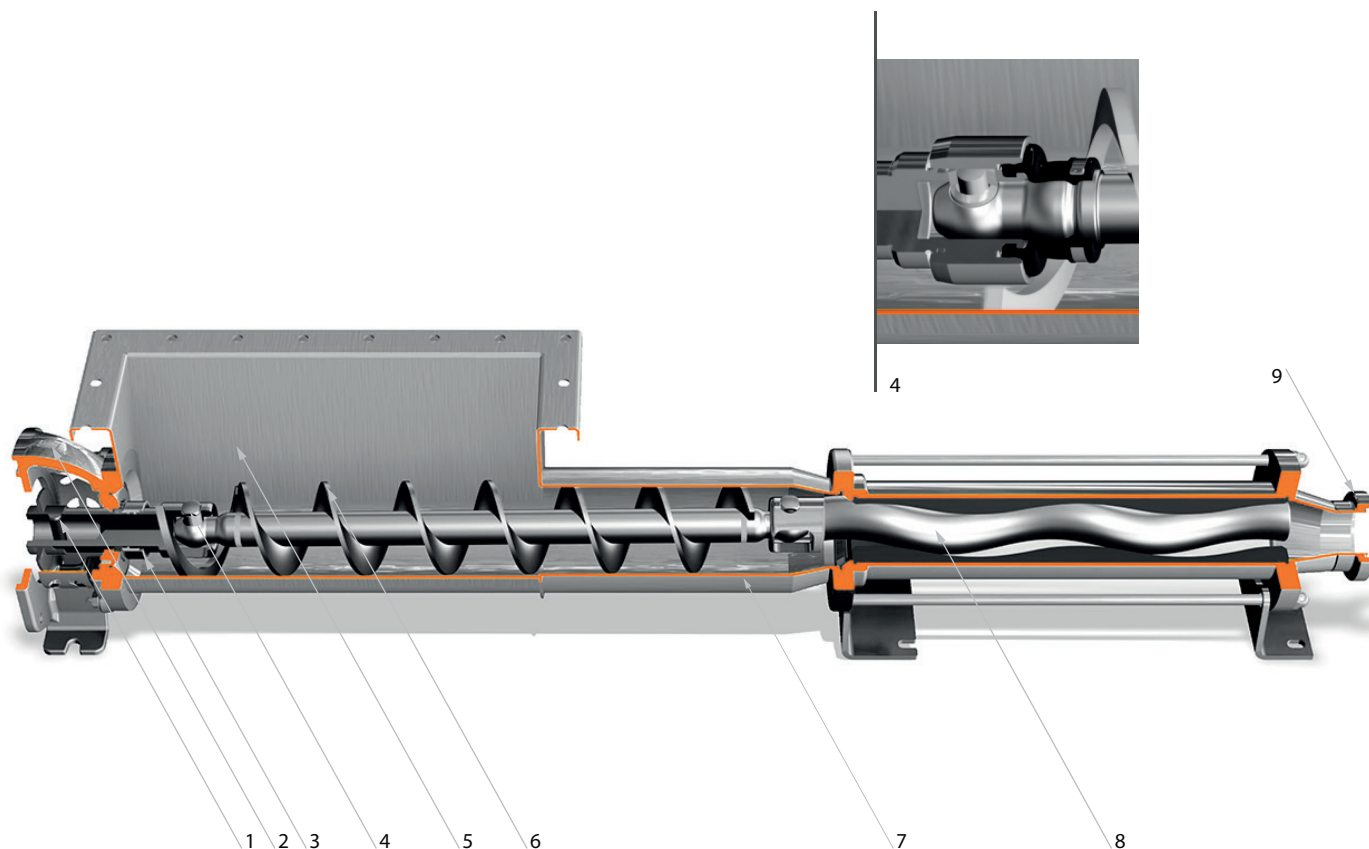


AFT-NR-DHXO/DHXC

Hygienic series with hopper

aft
NOVAROTORS



**DIAMOND
SERIES**

Pumping your success

Applications



- 1 Plug-in shaft
- 2 Lantern
- 3 Shaft seal
- 4 Patented pin joint
- 5 Rectangular hopper
- 6 Transmission shaft
- 7 Conical inlet section
- 8 Rotor
- 9 Eccentric flange

DHX Hygienic Series

The **DHX** hygienic pump series with hopper and an auger feed screw to convey product directly to the hydraulic part, is the ideal machine for pumping viscous and non-flowing liquids with a very high solids content. Suitable for pumping substances poorly flowing up to 18% of dry substance, which does not tend to clump or agglomerate.

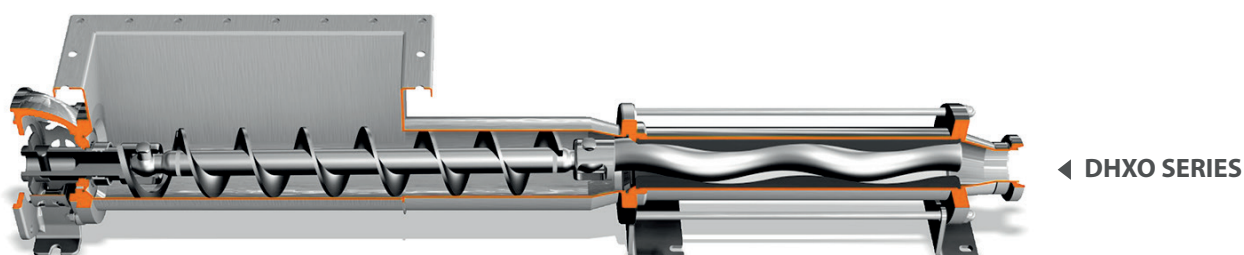
The complete sanitary design, in compliance with EHEDG and 3A standards, ensures maximum sanitization. These pumps are top rated for "Clean In Place" and "Sterilizing In Place". The geometry of the pumps is designed specifically to allow drainage and avoid dead zones. Each component is manufactured with the highest level of finish and utmost cleanliness.

Not only the parts that come in contact with the product, but also the lantern and base plate (when requested) are made of stainless steel (standard in AISI 304).

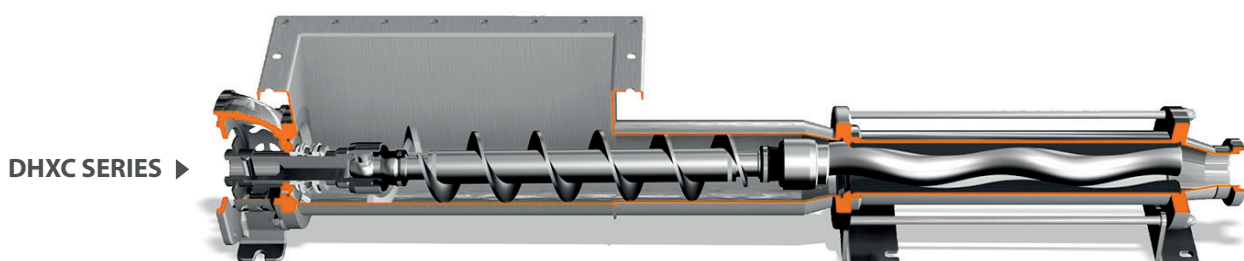
The available fittings include DIN 11851, DIN 11864, Clamp ISO 2852, Clamp ASME-3A, Clamp DIN 32676, RJT, SMS 1145 and lastly Garolla and Macon for the wine industry.

The complete range of pumps can be manufactured with block construction (DHXO SERIES and DHXC SERIES), bearing housing with independent shaft (JHXO SERIES and JHXC SERIES) or bearing unit with plug-in shaft (FHXO SERIES and FHXC SERIES).

- **DHXO Series:** the DHXO series is a hygienic pump with hopper and open joints. It is the solution with the most hygienic characteristics thanks to the design of the casing and the rotating parts completely free of dead zones and stagnation. The pin-type joint has been suitably sized to guarantee long durability. Lubrication of the joint is guaranteed by the product and its open design, therefore it is best suited for non-abrasive fluids. Performance improves considerably when pumping lubricant products.

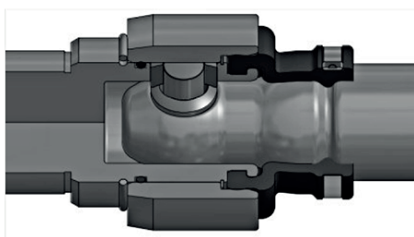


- **DHXC Series:** the DHXC series is a hygienic hopper pump with pin joint, standard to the DN series. This solution combines excellent sanitisation characteristics, thanks to the design and casing completely free of dead zones and stagnation, together with the performance of the pin-type joint patented in the Diamond series. Lubrication of the pin is independent of the pumped product, therefore it is also suitable for abrasive fluids.



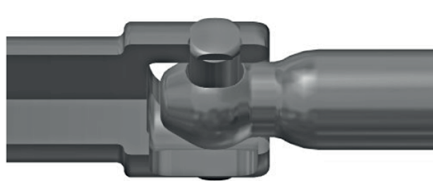
Patented Pin Joint (DHXC Series):

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 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. 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 pin can be hydraulically balanced.



Open Joint (DHXO Series):

Open joint with superior sanitization characteristics. Lubrication is guaranteed of the pumped product thanks to the mechanical geometry that enables direct entry in contact with the sliding parts. This joint is particularly strong thanks to the dimensions designed to ensure its performance. The biggest benefit of its design is fast maintenance. For assembly and disassembly there is no need for any tool, sealing product or lubricant. Replacement is cheap and extremely fast.



Base plates:

The base plates are characterized by considerable thicknesses. They are made of stainless steel as standard. They can be provided with hygienic housing with adjustable anti-vibration, in the trolley version or on skids, based on the client's specifications.



Low pulsating flows:

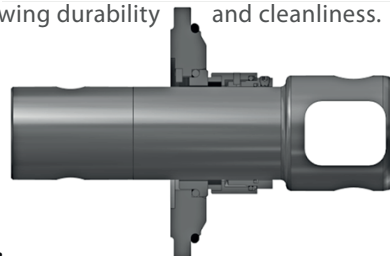
Tensional stress and pulsating flow are very low. The centrifugal effect is reduced to the minimum thanks to the low operating rotation speeds.

Materials:

The parts in contact with the product of the Diamond DXC and DXO series pumps can be in stainless steel (AISI 304 e AISI 316), on request in other materials such as Duplex and Super Duplex. All parts have excellent finishes and the casings are polished to ensure utmost cleanliness of the surfaces.

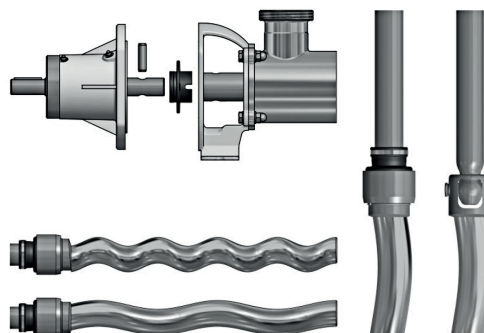
Shaft sealing:

Different sealing systems can be installed, each solution being suitable to specific usage. The types available are: single acting mechanical seal, with quench, double acting mechanical seal back to back or tandem. The type of seals are all interchangeable on the standard pump. Each solution was carefully engineered while taking into consideration all the operating conditions. You can also install various types of mechanical seals based on the application. The inner seals are in the advanced position for greater coverage of the pumped product, allowing durability and cleanliness.



Modularity:

The Diamond series is based on the concept of modularity on every level: 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.



Performance:

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

Quality:

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

Versatility:

The Diamond series was designed to be versatile whatever its use. For this reason it can be set up with 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.

Efficiency:

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

Motorizations:

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

All 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 its full life cycle, is highly competitive.



Detailed documentation:

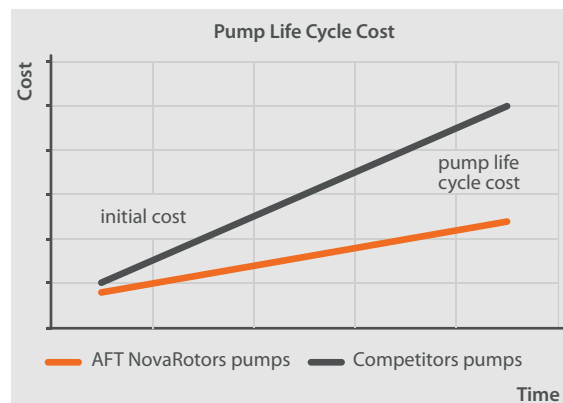
Each pump comes with clear and detailed operating instructions. Orders are followed by experienced and qualified staff that prepares specific and detailed documentation for every individual pump.

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.

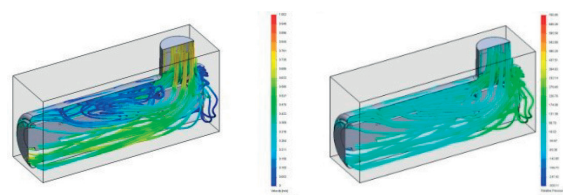
Cost / benefit:

The Diamond series, thanks to the compactness of its elements combines low costs without compromising the technical quality. The modularity allows you to get the right solutions depending on the application avoiding paying for features you do not need, all in favor of success.



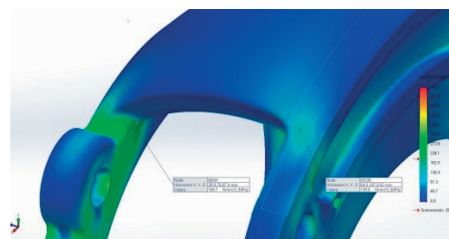
CFD analysis:

The x sanitary series is designed to guarantee the maximum cleanliness inside casings. Using the computational fluid dynamic CFD the internal design of the machines was optimized by checking the turbulence and washing rates based on the correct flow rate during the sanitization cycle.



FEM calculation:

The structural components of X series sanitary pumps are designed by the finite element method FEM. The geometries refine to have optimize the weight and the cost of each component.



In cooperation with

