



OUR POWER, YOUR SATISFACTION



DIAMOND SERIES

Industrial pumps

DHP / JHP series



Hopper series

Series with hopper an auger feed screw to convey directly the product to hydraulic part, are the ideal machines for pumping viscous and non-flowing, with a very high solids content.

The DHP and JHP series are the hopper version large with shaft bridge breaker and auger feed screw to the hydraulics. Suitable for pumping substances poorly flowing which tend to form a bridge. Particularly suitable for doughs or solids of considerable size compressible or compressible such as whole fruits and vegetables. This pump can be used in a wide area of food applications for grapes, whole fresh grapes, loaded with tomatoes in pieces or mixtures of the confectionery sector.

Realized as standard in stainless steel AISI 304 or AISI 316. Design without dead zone for an easy cleaning.

- DHP 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.



- JHP Series the drive is connected to the shaft inlet via a **flexible coupling**. This configuration 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 DHP Series pump with lantern** installed after a pump with the DHS series block housing. It is state of the art for this type of installation.



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 duration, reliability and reduced maintenance costs, managing to combine extreme compactness with unrivalled strength. Its particular manufacturing enables 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 pin 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.



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



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

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.

Materials: The parts in contact with the product of the DHB and JHB 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.

Shaft sealing: Different sealing systems can be installed, each solution being suitable to specific usage. The types available are: **mechanical seal**, single **acting** mechanical seal, single **mechanical seal** with quench, **back to back double acting** mechanical seal **back to back or tandem**, and **double mechanical seals in tandem**, **Gland packing with or without flush** and **flushed packing seal**.

The **type of seals** 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 sealing system, you can also install various types of mechanical seals based on the application.

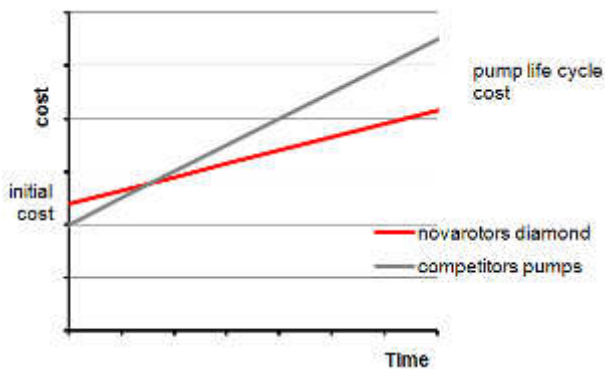
The compartments are suitable for installation of the seals manufactured according to the standards ISO EN 12756. As well as this, it is possible to use cartridge seals from the main manufacturers, also available according to standards API 682 category 1.



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 peculiar 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.

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.

Quality Each part is manufactured according 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.



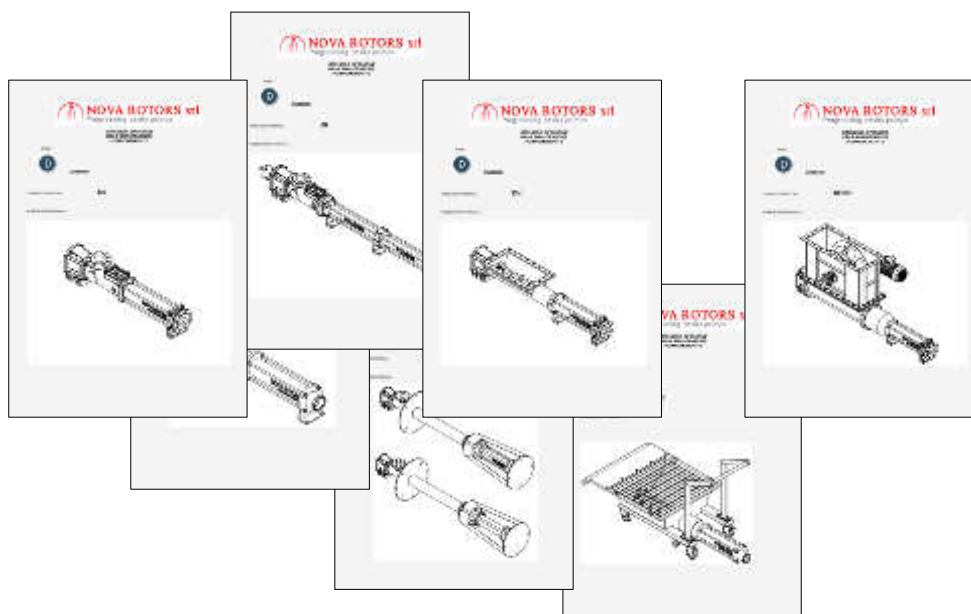
Maintenance: The Diamond series is designed to ensure easy maintenance and normally require the replacement of a minimum number of components. In particular the joint bushes allow the replace of the same without having to replace shafts and rotors. The costs of maintenance are really reduced. The cost 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.

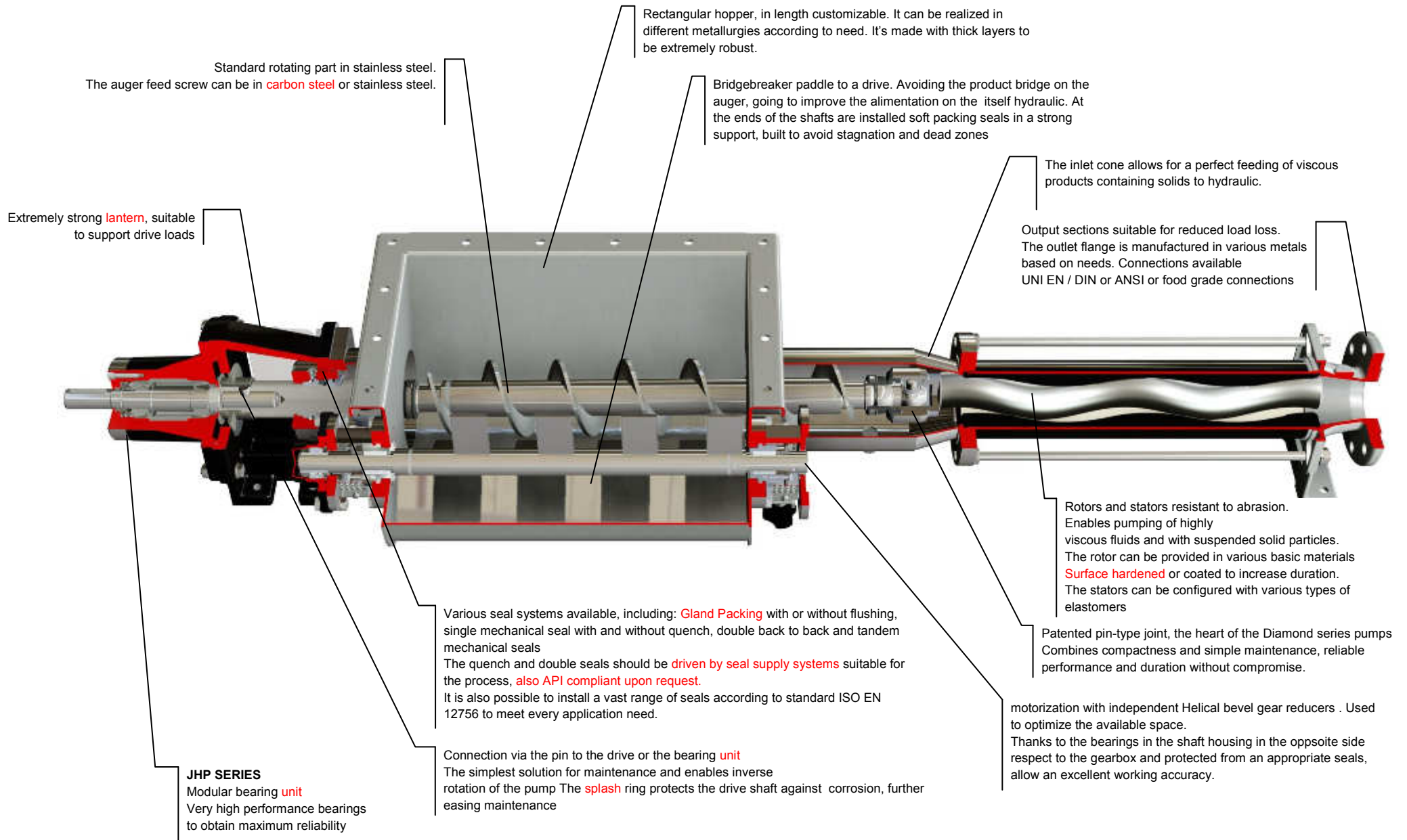
Self-priming: The peculiarities of the hydraulic parts of the progressive cavity pump allow excellent self-priming (up to 7m). The Diamond series were designed to create the minimum loss possible in the pump body, thanks to large sections and a joint compact design and fluid dynamic.

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.

Detailed documentation: Each pump comes with clear and detailed operating instructions. Orders are followed by experienced and qualified staff that integrates in providing detailed documentation on demand and specific for the product supplied.



Detailed characteristics



VERSION AND OPTION

Casing material

Base materials:

S275JR, AISI 304, AISI 316

Materials of the sealing shaft

Base materials:

AISI 420, AISI 304, AISI 316, F51(Duplex), F55 (Super Duplex)

Coatings:

Hardened Chrome plated HCP

Chrome oxide plasma (ceramic coating)

Rotor material

Base materials:

AISI 420, AISI 304, AISI 316, F51(Duplex), F55 (Super Duplex)

Heat treatments:

Hardening induction (only on AISI 420)

Coatings:

Hardened Chrome plated HCP

Chrome oxide plasma (ceramic coating)

Tungsten carbide HVOF

Stator material

Base materials:

NBR, food grade NBR, white NBR food grade

EPDM, EPDM food grade, white EPDM food grade

FPM, FPM food grade

HNBR, HNBR food grade

SYLICON

Buna-N (available on select models on request)

HYPALON (available on select models on request)

PTFE (available on select models on request)

Base plates

standard Base

Base with risers

Skid with lifting devices

Trolley

(For details, see the brochure constructive options, equipment and installations)

Connections

Flange UNI 2278 PN16 for pumps at 1 and 2 stage

Flange UNI 2284 or 6084 PN40 for inlet unions for pumps at 4 stage

Flange UNI 2285 PN64 for inlet unions for pumps at 8 stage

Threaded connection GAS BSP

DIN 11851

Clamp ISO 2852, Clamp ASME-3A, Clamp DIN 32676

RJT

SMS 1145

Garolla

Macon

Sealing system

Gland packing seal B01

Gland seal with flushing B02 (flush required)

Single mechanical seal G0K9

Single mechanical seal with Quench Q0K9 (buffer-Quench-pot required)

Back-to-back double mechanical seal D0K9 (pressurized flushing required)

Tandem double mechanical seal K0K9 (buffer / flush required)

Single or double cartridge seals also in API 682 version category 1

Seal supply systems are available also in accordance to API

(For construction details, see the brochure sealing systems and seals)

Optional for coupling rod

Ribbon auger feed screw

(For details, see the brochure constructive options, equipment and installations)

Protection devices

Temperature probe for dry running protection (standard in the ATEX version)

Flow switch

Pressure switch

(For details, see the brochure constructive options, equipment and installations)

Control devices

Electric panel

Electric panel with inverter

Drive with integrated inverter

(For details, see the brochure constructive options, equipment and installations)

Equipment and optional

Stator heating jacket

Hopper heating jacket

Stator cover in stainless steel

CIP connection realized in body pump

Bocchettone eccentrico

Tangential flanged connection or with threaded connection

Grinder

Quench Pot flushing

Lantern in stainless steel

Hermetic Lantern

Carter to protect the motorization

(For details, see the brochure constructive options, equipment and installations)

Certifications

CE

ATEX

FEATURES OF USE

Operating range

Flow

Up to 105 m³/h

Pressure

Up to 24 bar for the standard series (48 bar on request)

Temperature

from -40°C until to 150°C

Typical applications

Sewage sludge
 Water Treatment
 Industrial sludge
 Detergents and product for chemical industry
 Product of papermaking industry
 Water treatments
 Agriculture
 Detergent and cleaning industrial product
 Product derived from petro-chemical
 Marine Industry
 tomatoes Industry
 oenological sector ,graper with rasp, whole grapes
 Bakery and pastry industry
 Milk and dairy industry, cheese and cheese pastry

TABLE OF MODELS

Flow and pressure

Size	Model	Qmax 2 bar [m ³ /h]	rpm max	P max [bar]
D025	2L1	2,5	350	6
	1K2	1,2	350	12
	05K4	0,6	350	24
D030	4L1	5	350	6
	2K2	2,5	350	12
	1K4	1,2	350	24
D040	10L1	9,4	350	6
	4K2	4,7	350	12
	2K4	2,3	350	24
	16L1	14	350	4
	8K2	7	350	8
D060	20L1	19	350	6
	10K2	9,5	350	12
	4K4	4,7	350	24
	30L1	23	350	4
	16K2	11,5	350	8
D120	40L1	38	350	6
	20K2	17,5	350	12
	10K4	9,7	350	24
	60L1	57	350	4
	30K2	28,5	350	8
D300	80L1	77,5	350	6
	40K2	38,5	350	12
	20K4	15	300	24
	120L1	105	350	4
	60K2	52,5	350	8



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