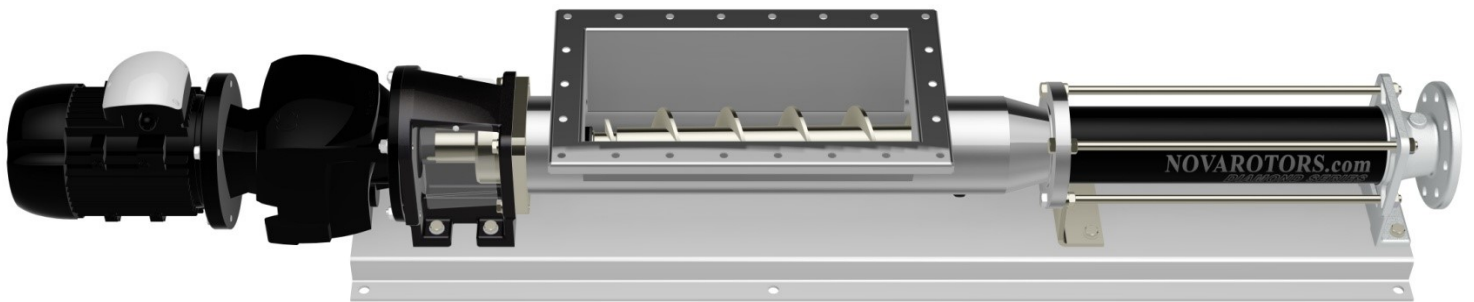




OUR POWER, YOUR SATISFACTION



DIAMOND SERIES

Industrial pumps

DH / JH / FH series

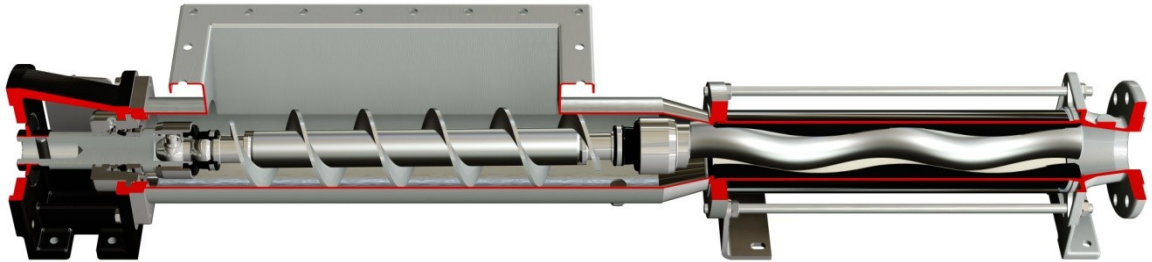


Hopper series

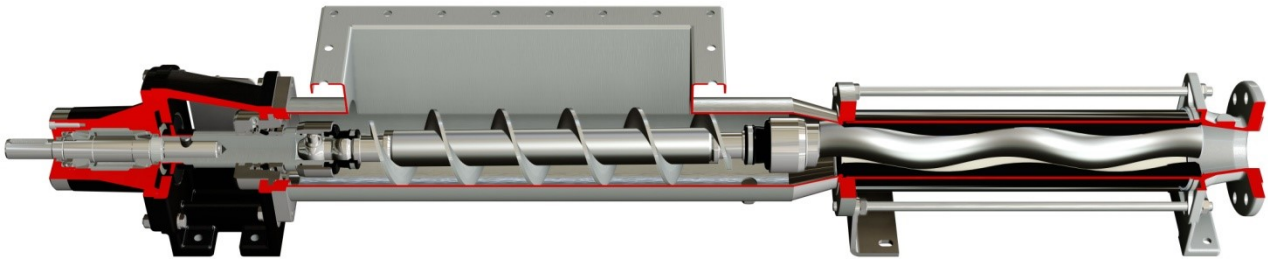
The Diamond Series with hopper an auger feed screw to directly convey the product to hydraulic part, are the ideal machines for pumping viscous and non-flowing, with a very high solids content.

DH and JH Series is the basic version with rectangular hopper and auger feed the hydraulics. The length is customizable depending on application. Suitable for pumping substances poorly flowing up to 18% of dry substance which does not tend to form a bridge. The DH and JN series are distinguished for the type of fitting of the pump to the drive.

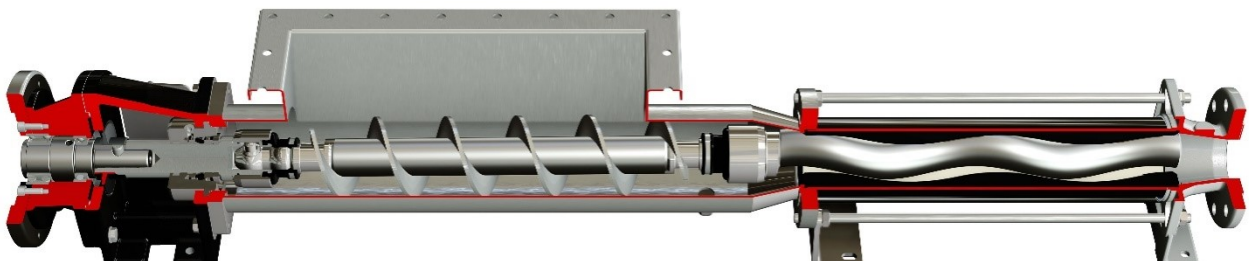
- **DH Series:** the drive is coupled directly to the pump via a flange. This solution is extremely cost effective and compact, considerably reducing installation costs and simplifying maintenance. The forces generated by the hydraulic part are supported by the drive itself. Each drive used is adequately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



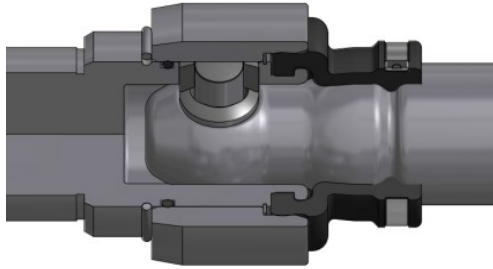
- **JH Series:** the drive is connected to the free bare shaft via a flexible coupling. This configuration is the best solution in terms of performance and durability. All the forces generated by the pump are absorbed by the bearings in the housing. These bearings have very high resistance against loads. 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 DH series pump with lantern. It is state of the art for this type of installation.



- **FH 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.



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).



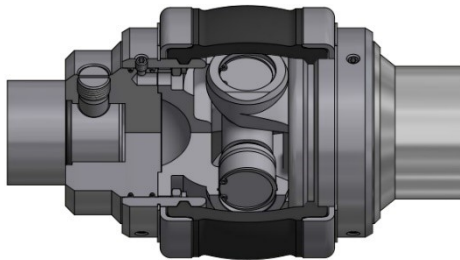
Materials: The parts in contact with the product of the DH and JH Diamond Series pumps can be manufactured in various materials. From the version in cast iron to stainless steel (AISI 304 and AISI 316), as well as other materials on request such as Duplex and Super Duplex. Also, in the version in cast 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.

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



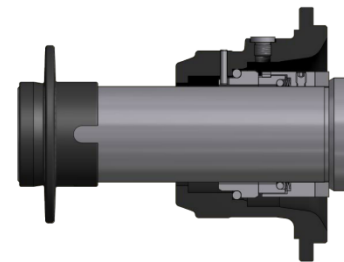
Cardan Joint: Cardan joint is the best solution for heavy application with high rotation speed and high pressure inside the pump casing. It improves the allowable torque up to 4 times torque with the same pump size. It is available with internal metal joint protection to for an additional improvement of the rubber service life.



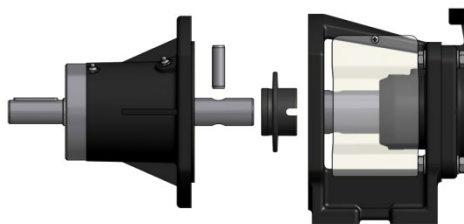
Shaft sealing: Different sealing systems can be installed, each solution being suitable to specific usage. The types available are: mechanical seal, single mechanical seal, internal or external, single mechanical seal with quench, double mechanical seal back to back or tandem, gland packing with flush 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.

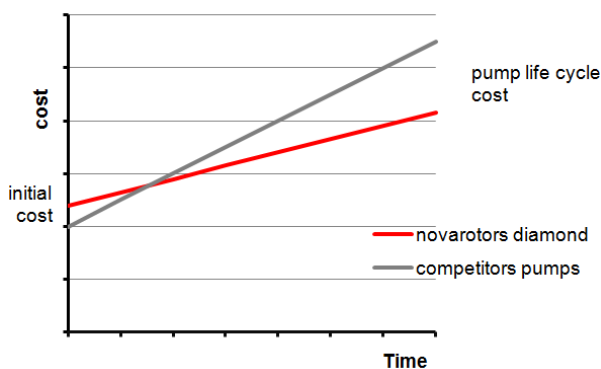
The compartments are suitable for installation of the seals manufactured according to the standards ISO EN 12756. As well as this, it is possible to use cartridge seals from the main manufacturers.



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.



<p>Performance: Duration, efficiency, reliability and low consumption. With the Diamond series, we have reached the maximum levels of technological development in every aspect.</p>	<p>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.</p>
<p>Efficiency: Maximum performance level, exceptional operating efficiency thanks to the optimum volumetric yield and high pressure and its consumption reduced to a minimum. All the Diamond series hydraulics efficiencies were calculated to guarantee the maximum found on today's market.</p>	
<p>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.</p> <p>All the models of reducers and variators present determined characteristics in terms of strength, size of the bearings and the quality of the gears.</p>	<p>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.</p>



Maintenance: The Diamond series is designed to ensure easy maintenance and normally require the replacement of a minimum number of components.

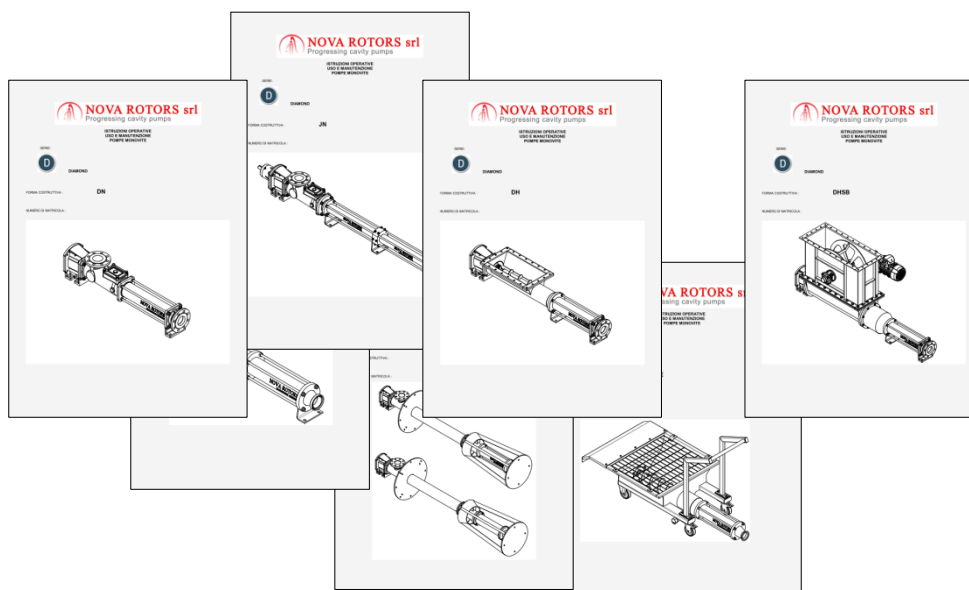
In particular the joint bushes allow the replace of the same without having to replace shafts and rotors.

The costs of maintenance are really reduced. The cost of the pump, considered in his full life cycle, is highly competitive.

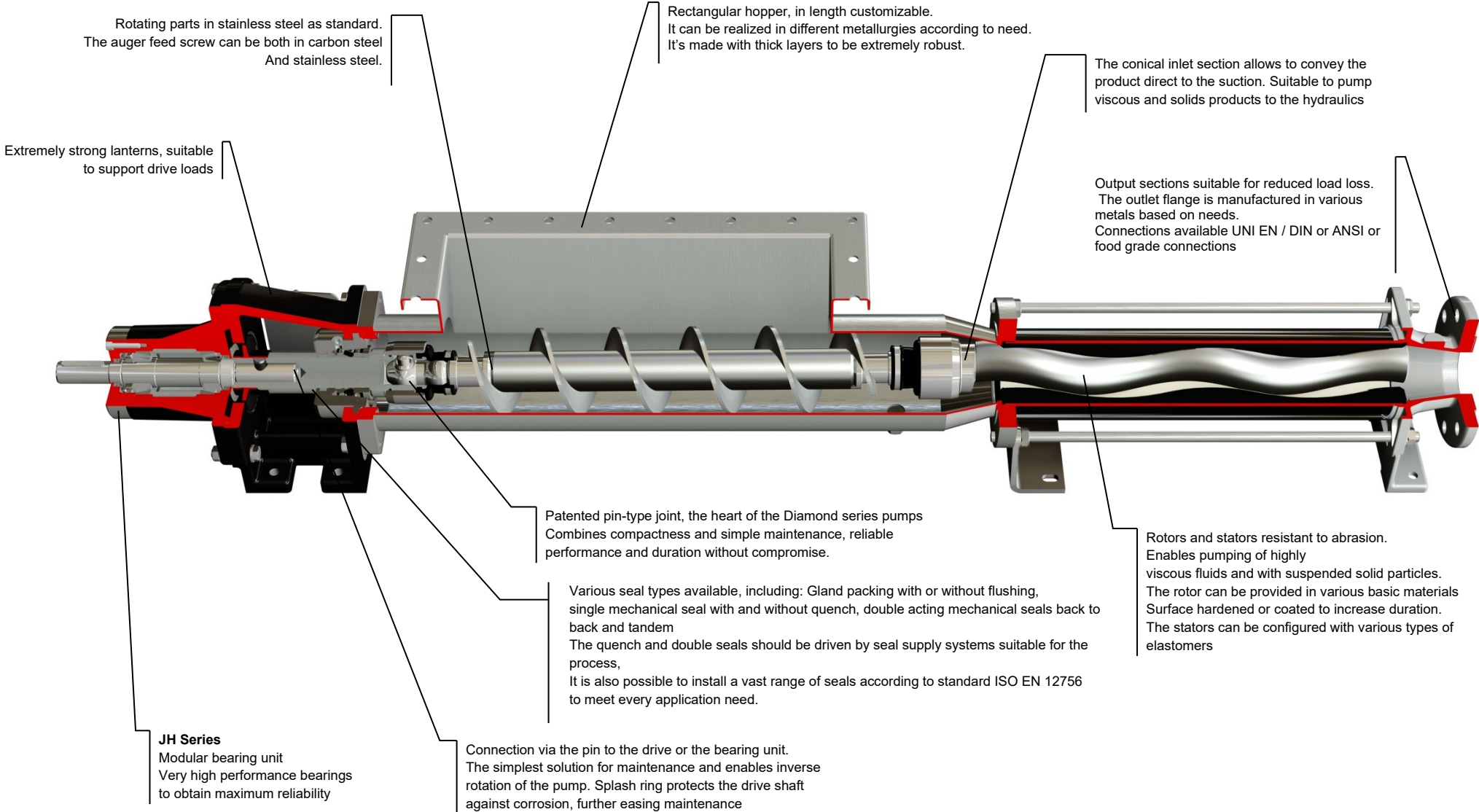
<p>Cost / benefit: The Diamond series, thanks to the compactness of its elements combined technical success without comparison at very competitive costs. The modularity allows you to make the right solutions depending on the application to avoid paying for features you do not need, all in favor of its competitiveness.</p>	<p>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.</p>
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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, F51(Duplex), F55 (Super Duplex)

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 anti-vibration housing (feet spacer)
Base with risers
Skid with lifting devices
Cart for industrial sector (trolley)
Trolley (cart) with handle integrated on the hopper construction
(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 outlet unions for pumps at 4 stage
Flange ASME B16.5 #150 for pumps at 1 and 2 stage
Flange ASME B16.5 #300 for outlet unions for pumps at 4
Threaded connection GAS BSP

FEATURES OF USE

Operating range

Flow

Up to 820 m³/h

Pressure

Up to 24 bar for the standard series

Temperature

from -40°C until to 150°C

Sealing system

Gland packing seal B01
Gland seal with flushing B02 (flushing system required)
Single mechanical seal G0K9 (flushing system recommended)
Single mechanical seal with Quench Q0K9 (Buffer Quench Pot required)
Back-to-back double mechanical seal D0K9 (pressurized flushing system required)
Tandem double mechanical seal K0K9 (buffer / flushing system required)
Single or double cartridge seals
Seal supply systems are available also in accordance to API Plan
(For construction details, see the brochure sealing systems and seals)

Optional for coupling rod

Joint Protection
(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

Control panel
Control 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
Stainless steel stator cover
Grinder
Quench Pot flushing
Stainless steel lantern
Hermetic lantern
Carter to protect the motorization
CIP connection
Eccentric Outlet
(For details, see the brochure constructive options, equipment and installations)

Certifications

CE
ATEX

Typical applications

Sewage sludge
Water Treatment
Industrial sludge
Detergents and product for chemical industry
Product of papermaking industry
Agriculture
Product derived from petro-chemical
Marine Industry

TABLE OF MODELS
Flow and pressure

Size	Model	Qmax 2 bar [m ³ /h]	rpm max	P max [bar]
D020	1L1	4,9	1400	6
	05K2	2,5	1400	12
	025K4	0,7	800	24
D025	2L1	10	1400	6
	1K2	5,1	1400	12
	05K4	1,5	800	24
D030	4L1	14	1000	6
	2K2	7,2	1000	12
	1K4	2,9	800	24
D040	10L1	22	800	6
	4K2	11,5	800	12
	2K4	4,2	600	24
	16L1	32,5	800	6
	8K2	16,8	800	12
	4K2EL	11,5	800	18
D060	20L1	39,1	700	6
	10K2	17,2	600	12
	4K4	7,2	500	24
	30L1	46	700	6
	16K2	21,5	600	12
	10K2EL	17,2	600	18
D120	40L1	65,5	600	6
	20K2	31	600	12
	10K4	11,7	400	24
	60L1	82	500	6
	30K2	40,5	500	12
	20K2EL	31	600	18
D300	80L1	88	400	6
	40K2	45	400	12
	20K4	21	400	24
	120L1	120	400	6
	60K2	64,5	400	12
	40K2EL	45	400	18
D400	160L1	161	400	6
	80K2	90	400	12
	40K4	45	400	24
	240L1	261	400	6
	120K2	116	350	12
	80K2EL	90	400	18
D500	40K2E	45	400	24
	320L1	255	350	6
	160K2	142	350	12
	80K4	56	250	24
	480L1	368	350	6
	240K2	185	350	12
D600	160K2EL	142	350	18
	80K2E	56	250	24
	640L1	540	350	6
	320K2	280	350	12
	160K4	101	250	24
	960L1	802	350	6
D600	480K2	403	350	12
	320K2EL	280	350	18
	160K2E	142	250	24



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