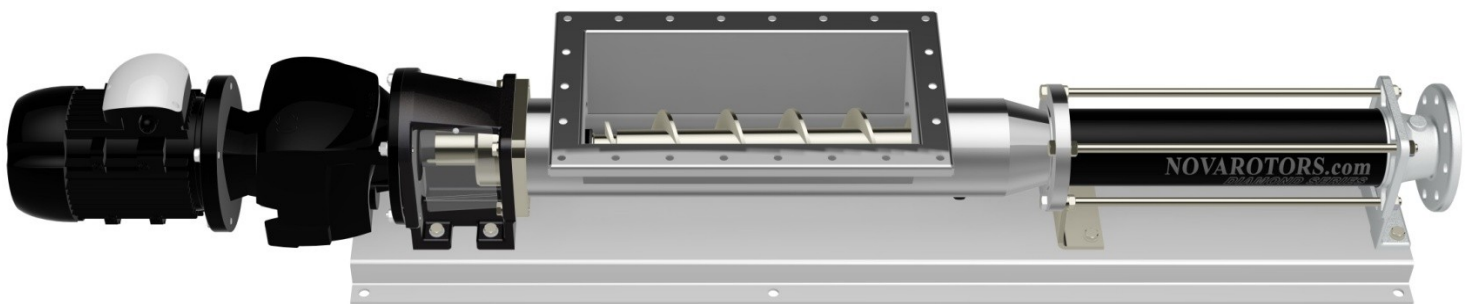




OUR POWER, YOUR SATISFACTION



DIAMOND SERIES

Industrial pumps

DH / JH series

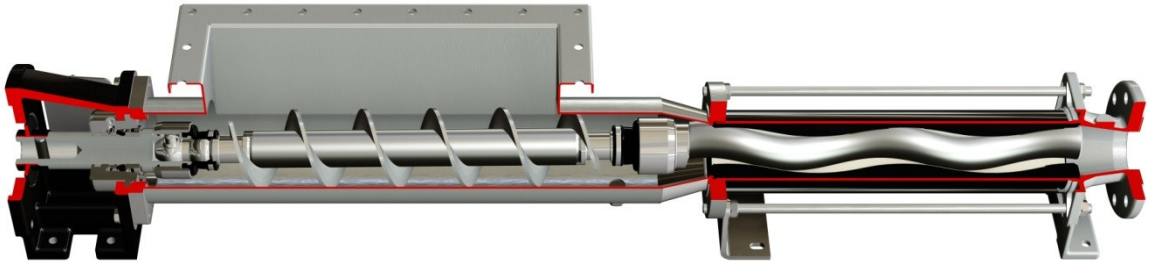


Hopper series

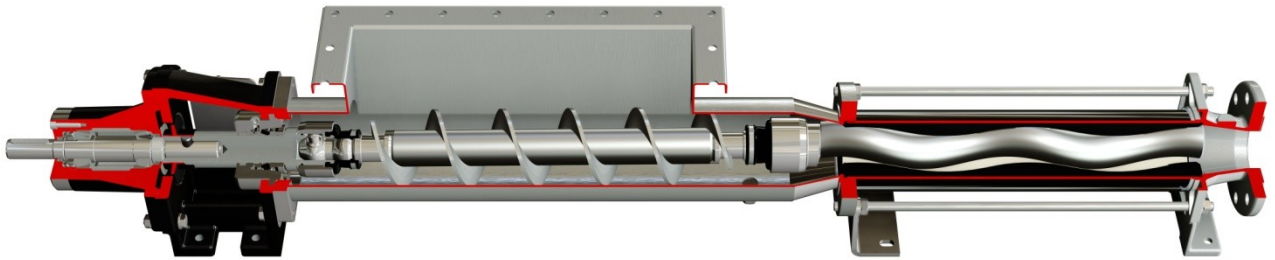
The Diamond Series with hopper an auger feed screw to convey directly the product to hydraulic part, are the ideal machines for pumping viscous and non-flowing, with a very high solids content.

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.

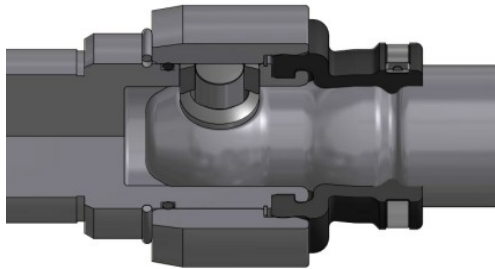
- DH Series: the drive is coupled directly to the pump via a flange. This solution is extremely cheap and compact, considerably reducing installation costs and simplifying maintenance. The stress generated by the hydraulic part is supported by the drive itself. Each drive used is adequately selected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



- JH Series: the drive is connected to the shaft inlet via a coupling joint. This configuration is the best solution in terms of performance and durability. All the stress generated by the pump is 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 housing designed by us is modular and can be installed after a pump with the JX series block housing. It is state of the art for this type of installation
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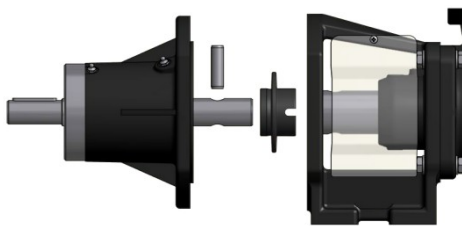
Patented Pin Joint: The pin-type joint, the actual heart of the single screw pump, is the best solution of its type on the market. It offers greater duration, reliability and reduced maintenance costs, managing to combine extreme compactness with unrivalled strength. Its particular manufacturing enables 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.

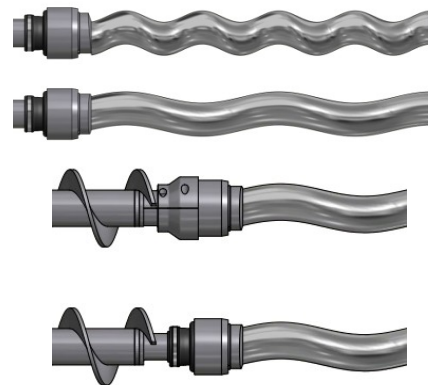
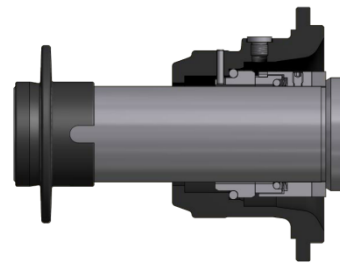


Materials: The parts in contact with the product of the DN and JN Diamond Series pumps can be manufactured in various materials. From the version in cast iron to stainless steel (AISI 304 and AISI 316), as well as other materials on request such as Duplex and Super Duplex. Also, in the version in cast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

Shaft sealing: Different sealing systems can be installed, each solution being suitable to specific usage. The types available are: mechanical seal, single outer mechanical seal, single mechanical seal with quench, back to back double mechanical seal and double mechanical seals in tandem, Packing seal and flushed packing seal.

The sealing systems 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.



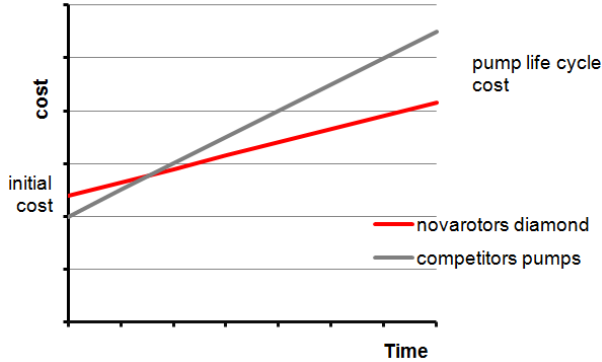
Performance: Duration, efficiency, reliability and low consumption. With the Diamond series, we have reached the maximum levels of technological development in every aspect.

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.

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 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.



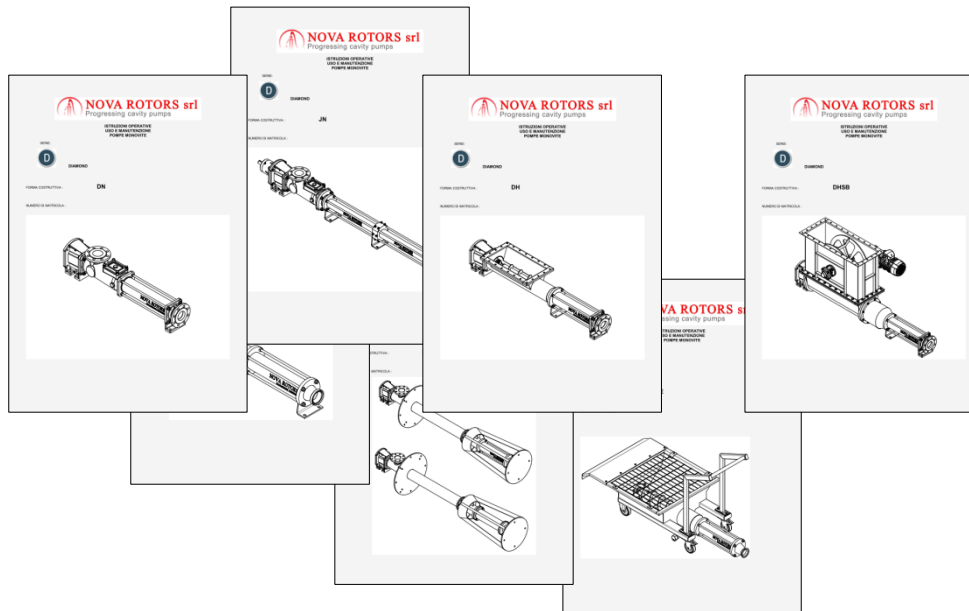
Maintenance: The Diamond series is designed to ensure easy maintenance and normally require the replacement of a minimum number of components. In particular the joint bushes allow the replace of the same without having to replace shafts and rotors. The costs of maintenance are really reduced. The cost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

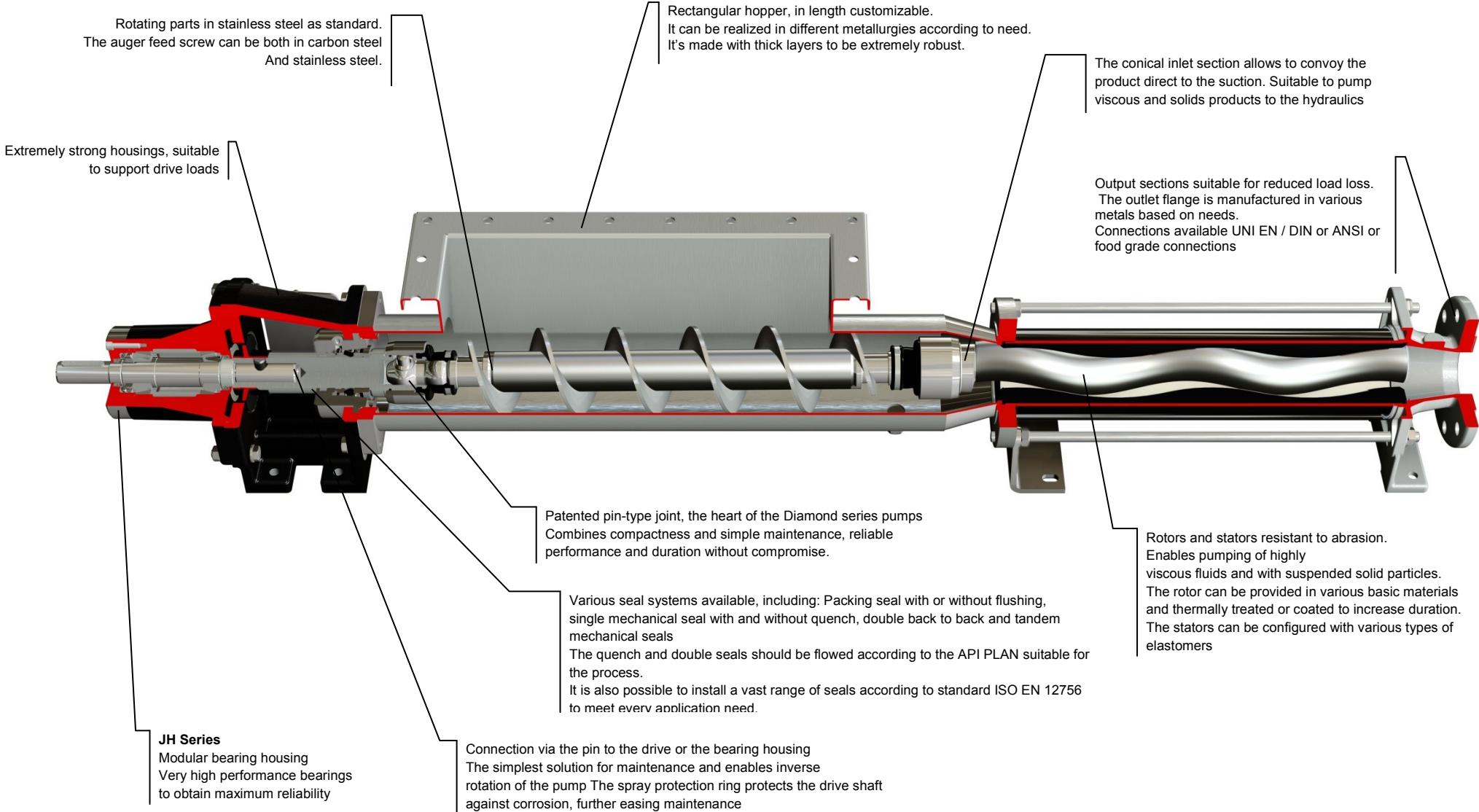
Self-priming: The peculiarities of the hydraulic parts of the progressive cavity pump allow excellent self-priming (up to 7m). The Diamond series were designed to create the minimum loss possible in the pump body, thanks to large sections and a joint compact design and fluid dynamic.

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



Rotating parts in stainless steel as standard.
The auger feed screw can be both in carbon steel
And stainless steel.

Rectangular hopper, in length customizable.
It can be realized in different metallurgies according to need.
It's made with thick layers to be extremely robust.

The conical inlet section allows to convey the
product direct to the suction. Suitable to pump
viscous and solids products to the hydraulics

Extremely strong housings, suitable
to support drive loads

Output sections suitable for reduced load loss.
The outlet flange is manufactured in various
metals based on needs.
Connections available UNI EN / DIN or ANSI or
food grade connections

Patented pin-type joint, the heart of the Diamond series pumps
Combines compactness and simple maintenance, reliable
performance and duration without compromise.

Rotors and stators resistant to abrasion.
Enables pumping of highly
viscous fluids and with suspended solid particles.
The rotor can be provided in various basic materials
and thermally treated or coated to increase duration.
The stators can be configured with various types of
elastomers

Various seal systems available, including: Packing seal with or without flushing,
single mechanical seal with and without quench, double back to back and tandem
mechanical seals
The quench and double seals should be flowed according to the API PLAN suitable for
the process.
It is also possible to install a vast range of seals according to standard ISO EN 12756
to meet every application need.

JH Series
Modular bearing housing
Very high performance bearings
to obtain maximum reliability

Connection via the pin to the drive or the bearing housing
The simplest solution for maintenance and enables inverse
rotation of the pump The spray protection ring protects the drive shaft
against corrosion, further easing maintenance

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 anti-vibration housing (feet spacer)
Base with risers
Skid with lifting devices
Cart for industrial sector (trolley)
Cart for food grade and winery sector
(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

Sealing system

Gland packing seal B01
Gland seal with flushing B02 (flushed according to API PLAN 51, 52, 55)
Single mechanical seal G0K9 (API PLAN 2 or flushed according to API PLAN 11, 32)
Single mechanical seal with Quench Q0K9 (flushed according to API PLAN 51, 52, 55)
Back-to-back double mechanical seal D0K9 (flushed according to API PLAN 53A, 54)
Tandem double mechanical seal K0K9 (flushed according to API PLAN 52, 53A, 55)
Single or double cartridge seals als in API 682 version category 1
(For construction details, see the brochure sealing systems and seals)

Optional for transmission shaft

Protector joint
(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
Heating jacket for hopper
Stainless steel stator cover
CIP connection
Outlet eccentric pipe
Separate entrance
Tangential flanged connection or with threaded connection
Barrel flushing
Coupling flange
Hermetic coupling flange
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 110m³/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

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]
D025	2L1	6,9	1000	6
	1K2	9,4	1000	12
	05K4	1,5	800	24
D030	4L1	11	800	6
	2K2	5,6	800	12
	1K4	2,2	600	24
D040	10L1	16,5	600	6
	4K2	8,5	600	12
	2K4	3,7	500	24
	16L1	23,5	600	4
	8K2	12	600	8
D060	20L1	28	500	6
	10K2	14	500	12
	4K4	5,7	400	24
	30L1	33	500	4
	16K2	16,5	500	8
D120	40L1	43	400	6
	20K2	20	400	12
	10K4	10	350	24
	60L1	63,5	400	4
	30K2	32	400	8
D300	80L1	76	350	6
	40K2	38	350	12
	20K4	15,4	300	24
	120L1	110	350	4
	60K2	55	350	8



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CEC 07 ATEX 110 - REV.1