



Diamond Series Progressive Cavity Pumps



Performance:

Flow rate	400 m ³ /h
Pressure	48 bar
Temperature	180 °C
Viscosity	1,000,000 CP

The Diamond series of progressive cavity pumps are a self-priming positive displacement pump specifically designed for the high pressure handling of even the most viscous, abrasive and shear sensitive fluids. Typical applications including slurries with high solid content, food waste, sewage, biomass, paper pulp and waste water.

Technical Features:

- ✓ Highest solid handling capacity in the progressive cavity pump market
- ✓ Patented pin joint ensuring 8000 operating hours before maintenance is required
- ✓ High efficiency design – 20% less power consumption thanks to long pitch rotor
- ✓ Low shear operation – can handle sensitive products that need to maintain their structure
- ✓ High pressures can be achieved – even difficult fluids can be transferred over long distances
- ✓ Can be manufactured to fit existing pipework for replacement pumps
- ✓ Constant flow rate regardless of the viscosity of the medium being pumped
- ✓ Reversible flow up to 3 bar as standard, up to 12 bar with hydraulic balance
- ✓ High priming and great suction lift capabilities thanks to the low Net Positive Suction Head
- ✓ Smooth, low pulsating flow allowing accurate metering
- ✓ One stage stator with long pitch geometry to improve performance, sealed either end so no o ring is required
- ✓ Newly designed rubber sleeve to compensate for any sharp solids in the fluid
- ✓ Integrated bearing lubrication system
- ✓ Capable of handling viscous fluids up to 1,000,000CP
- ✓ Various sealing options available
- ✓ Two coupling options; close coupled (D) and bearing housing (J)
- ✓ 230v, three phase 50/60hz motors available
- ✓ ATEX and API 676 certification
- ✓ Food grade, EHEDG and 3A models available



**20% LESS
POWER
CONSUMPTION**



**8000 HOURS
BEFORE
MAINTENANCE**



energy



**ATEX
& API 676
CERTIFICATION**



**MANUFACTURED
TO FIT EXISTING
PIPEWORK**



**HIGHEST
SOLID PASSAGE
IN THE MARKET**



**GENTLE, LOW
SHEAR FLOW**



Version:

Cast Iron

Body pump / outlet flange: ✓ Cast iron G25

Inspection ports standard in all sizes cast iron

- Available connection: ✓ Flanges DIN 2501
 ✓ Flanges ANSI RF150
 ✓ Spherical connections

Stainless Steel

Body pump / outlet flange: ✓ S.S. 304 / 316

CIP on request

- Available connections: ✓ BSP (Gas)
 ✓ Flanges DIN 2501
 ✓ Flanges ANSI RF150
 ✓ DIN 11851
 ✓ SMS
 ✓ RJT (BMS)
 ✓ Macon
 ✓ Clamp
 ✓ Other if requested

Motor Coupling

Close coupled type 'D'

Flange diam. 160 / 200 / 250 / 300 mm related to the pump sizes

Female drive shaft S.S. Aisi 304 / Aisi 316 / 420B

Diam. 24 / 30 / 35 / 40 / 50 mm related to the pump sizes

Bearing housing flexible joint type 'J'

Size	Model	m ³ /h at 2 bar	BAR Max	RPM Max
SIZE025	2L1	6.9	6	1000
	1K2	3.4	12	1000
	05K4	1.5	24	800
SIZE030	4L1	11	6	800
	2K2	5.6	12	800
	1K4	2.2	24	600
	05K8	1	48	500
SIZE040	10L1	16.5	6	600
	4K2	8.5	12	600
	2K4	3.7	24	500
	1K8	1.5	48	400
	16L1	23.5	4	600
	8K2	12	8	600
SIZE060	20L1	28	6	500
	10K2	14	12	500
	4K4	5.7	24	400
	2K8	2.6	48	350
	30L1	33	4	500
	16K2	16.5	8	500
SIZE120	40L1	43	6	400
	20K2	20	12	400
	10K4	10	24	350
	4K8	5	48	350
	60L1	63.5	4	400
	30K2	32	8	400
SIZE300	80L1	76	6	350
	40K2	38	12	350
	20K4	15.4	24	300
	10K8	8.5	48	300
	120L1	110	4	350
	60K2	55	8	350

Types Available

N - FLANGED	HB - BRIDGE BREAKER
X - SANITARY	HE - ONEOLOGICAL HOPPER
V - VERTICAL	HP - HOPPER WITH PADDLE
H - HOPPER	HS - ENLARGED AUGER HOPPER



Flanged Industrial Series:

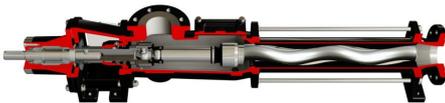
The Flanged Industrial Series is the basis of the Diamond series.

The robust cast casings, also in the stainless steel model, with large inspection ports included, make this an ideal product for the toughest applications. The Diamond DN and JN series are the best solution for a wide range of fluid pumping industries. They are synonymous with sturdiness, reliability, performance and application flexibility. Available with UNI, DIN and ANSI flanged and GAS BSP threaded connections.



DN Series - Flanged

The drive system is coupled directly to the pump by means of a flange. This solution is extremely economical and compact, considerably reduces installation costs and simplifies maintenance. The stress generated by the hydraulic part is supported by the drive system itself.



JN Series - Flanged

The drive is connected to the shaft at the pump inlet by means of a coupling joint. This solution is the best solution in terms of performance and durability. All the stress generated by the pump is absorbed by the bearings present in the casing. The bearing housing of our design is modular and can be installed at a later date in a close-coupled pump of the DN series.

Hygienic Series:

The sanitary pump series is state of the art and perfect for food, pharmaceutical, chemical and cosmetic industries. The complete sanitary design, in compliance with EHEDG and 3A standards, ensure maximum sanitization. These pumps are top rated for "Clean in Place" and "Sterilisation in Place" procedures. The geometry of the pumps is designed specifically to allow complete draining and avoid dead zones. Each single component is manufactured with the utmost attention to finishing details and is thoroughly cleaned. As well as the parts that come into contact with the product, the block construction and base (when requested) are also made of stainless steel (standard in AISI 304).

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

The complete range of pumps can be manufactured with block construction (DXO SERIES and DXC SERIES) or bearing housing with independent shaft (JXO SERIES, JXC SERIES).



DXO Series - Sanitary

The DXO series is an hygienic pump with open joint. The design of its casing and rotating parts ensures that they completely free of stagnation points and dead zones, making it the absolute best for sanitary applications. The pin-type joint has been suitably sized to ensure a long life. Lubrication of the joint is guaranteed by the actual product thanks to its open design, consequently it is suitable for non-abrasive fluids. Performance improves considerably when pumping lubricants.



DXC Series - Sanitary

The DXC series is a hygienic pump with closed pin joint (standard to the DN series) and ideal for abrasive sanitary applications. In all other respects it maintains all the sanitary features of the DXO series. Lubrication of the pin is independent of the pumped product, consequently it is also suitable for abrasive fluids.

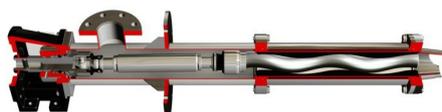
Vertical Series:

The Vertical series is the ideal solution for pumping viscous or non-viscous, abrasive and aggressive materials from tanks and wells. These pumps are available with UNI, DIN and ANSI and GAS BSP discharge flanged connections; whereas the liquid suction port is designed specifically for priming the product in which it is immersed. The length can be adapted to suit the installation requirements. The stainless steel version (AISI 304 or AISI 316) is supplied with a stator jacket as standard to prevent corrosion of the stator.

There are two standard configurations: the short version and the long version. The difference is in the installation length with which they are constructed. The short version is compact robust and very easy to install. Whereas the long version is ideal for installation in deep wells or tanks and feature a number of dedicated optimizations such as the removable inlet for easy maintenance of the rotor, stator and coupling. A fundamental feature is the downhole plate with clamping cone to make the pump extremely stable and vibration-free even in extreme conditions of use.

They are always constructed in the close-coupled version.

DV Series (Vertical) - SHORT VERSION



DV Series (Vertical) - LONG VERSION





Hopper Series:

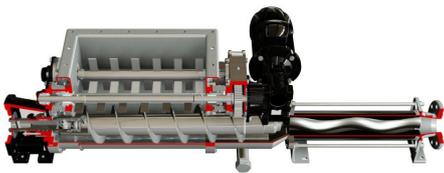
The open hopper pumps with hydraulic auger feed screw are ideal for handling high-consistency materials with a low degree of flowability and high solid content.

They are available in 7 different construction types, each with different screws and hoppers based on the type of product to be pumped. All the pumps can be made with a close coupled arrangement or a bearing housing arrangement with independent shaft (JH SERIES, JHS SERIES, JHP SERIES, JHB SERIES and JHSB SERIES) excepting the DHE SERIES which has a built-in gear motor.



DH Series - Hopper

Standard model equipped with rectangular hopper and an auger feed screw that moves the product to the hydraulic part. The length can be adapted to suit the application. Suitable for pumping materials with low flow-ability and up to 18% solids content which do not create or have a tendency to bridge.



DHB Series - Bridge Breaker

This model features a hopper with double bridge breaker shaft and an enlarged auger feed screw that moves the product to the hydraulic part. The length can be adapted to suit the application. Suitable for pumping highly viscous, non-flowing materials with up to 35% solids content with blocks that tend to bridging.

The screw drive shaft features a special integrated joint protection.



DHE Series - Onelological Hopper

This model has a large eccentric hopper, with integrated trolley, ideal for the wine industry in conjunction with destemmers-crusher. For pumping crushed grapes with or without stems. Extremely compact standard construction with all parts made from AISI 304 stainless steel.

The worm gear motor significantly reduces the pump's footprint. The pump is supplied with safety grill on the hopper, protection guard for the drive system and a large handle that can accommodate electric panels and inverters. It can be supplied with a level probe on the hopper for automatic shutdown of the pump.



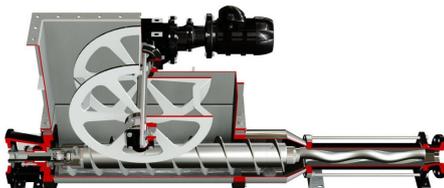
DHP Series - Hopper with Paddle

Model fitted with wide hopper, single bridge breaker shaft and auger feed screw that moves the product to the hydraulic part. Easy handling of materials with a low degree of flow ability and prone to bridging. Particularly suitable for easily compressible, large mixtures or solid materials such as whole fruits and vegetables. Ideal for food applications such as grapes, whole fresh grapes, chopped tomatoes or doughs for the confectionery industry. Standard AISI 304 or AISI 316 stainless steel construction. No dead zones and easy to clean design.



DHS Series - Enlarged Auger Hopper

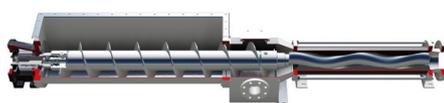
This model features a rectangular hopper and enlarged auger feed screw that moves the product to the hydraulic part. The length can be adapted to suit the application. Suitable for pumping high viscosity materials with low flow-ability and up to 28% solids content which do not tend to bridge. The screw drive shaft features a special integrated joint protection.



DHS-B SERIES - Enlarged Auger Hopper (DHS with 'B' Module)

This model features a rectangular hopper and an enlarged auger feed screw that moves the product to the hydraulic part. The hopper is fitted with a "B" Module which features a special wheel device that feeds the screw to prevent bridging and increase flow ability of the plastic or pseudo plastic materials. Suitable for pumping non-flowing materials with up to 40% solids content with blocks that tend to bridging.

It is particularly effective in pumping products that tend to plasticize. The screw drive shaft features a special integrated joint protection.



DHS-T Series - Enlarged Auger Hopper

This model features a rectangular hopper and an enlarged auger feed screw that moves the product to the hydraulic part. It is designed for the Biogas sector for pumping silage with the injection of phase liquid at the inlet to increase pump-ability of the solids. The separate inlet provides the connections for the injection of liquids and has a rectangular bottom for collecting any stones that might enter the hopper and be conveyed away by the screw. This avoids damage to the hydraulic section. Moreover, a large additional inspection port is provided with quick couplings for easy removal of solid deposits from the inlet.