

OUR POWER, YOUR SATISFACTION



DIAMOND SERIES

Biogas pumps

DHS-T / JHS-T series



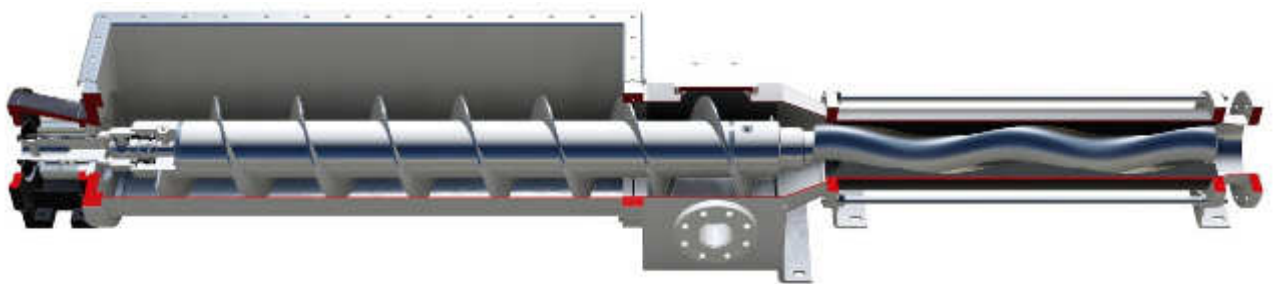
Hopper series

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.

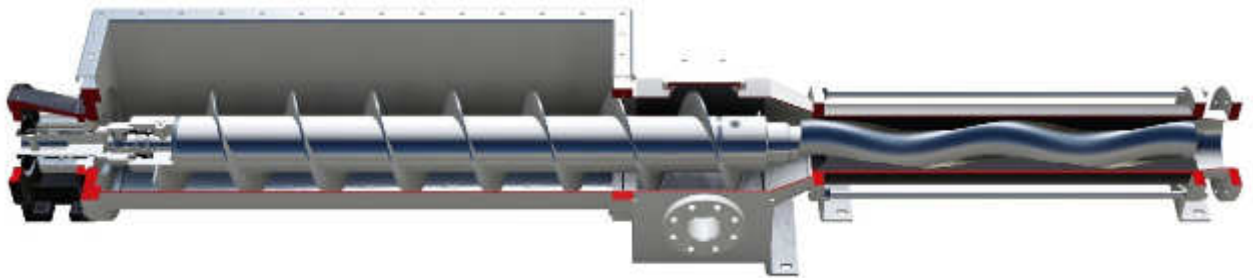
The DHS-T e JHS-T series are the hopper rectangular version with increased auger feed screw to the hydraulics.

Versione realizzata per il settore Biogas per il pompaggio di insilati con iniezione di fase liquida nell'imbocco per migliorare il pompaggio della parte solida. L'imbocco separato, oltre a prevedere i collegamenti per l'iniezione liquida ha un fondo rettangolare per la raccolta dei sassi che possono entrare nella tramoggia e che vengono trasportati dalla coclea. Ciò permette di evitare danni alla parte idraulica. Inoltre è presente un ampio portello di ispezione supplementare ad innesti rapidi che consente l'estrazione dei residui solidi nell'imbocco con estrema facilità.

DHS-T 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.



- Serie JHS-T: la motorizzazione è collegata all'albero in entrata della pompa tramite giunto di accoppiamento. Questa configurazione rappresenta la miglior soluzione dal punto di vista delle performance e della durata. Tutti gli sforzi generati dalla pompa vengono assorbiti dai cuscinetti presenti nel supporto. Tali cuscinetti hanno una resistenza ai carichi elevatissima. Vengono montati con precisione estrema su componenti di altissima qualità costruttiva. E' la miglior soluzione quando si vuole garantire la massima durata e affidabilità, pur necessitando di spazi di installazione maggiori. Il supporto cuscinetti da noi progettato, è modulare e può essere installato successivamente in una pompa con supporto monoblocco della serie DHS-T. Rappresenta lo stato dell'arte per quanto riguarda questo tipo di installazioni.



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.

**Materials:**

The parts in contact with the product of the DHS and JHS Diamond Series pumps can be manufactured in various materials. From the version in cast iron to stainless steel (AISI 304 and AISI 316). Also, in the version in cast iron, the rotating parts are still manufactured in stainless steel AISI 420 except the auger feed screw or on request in AISI 304 / AISI 316, also for the part in contact with product.

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

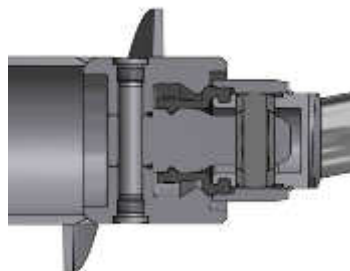
with quench, back to back double mechanical seal and double mechanical seals in tandem, Packing seal and flushed packing seal.

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.



Joint protection: In the DHB e JHB series the joint rubber sleeve and clamp are protected from a particular device integrated inside the end of the auger feed screw. This characteristic is of considerable importance because it ensures the integrity of the joint in the case of pumping of abrasive substances or with solid blunt, without the needed to add expensive optional components.



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.

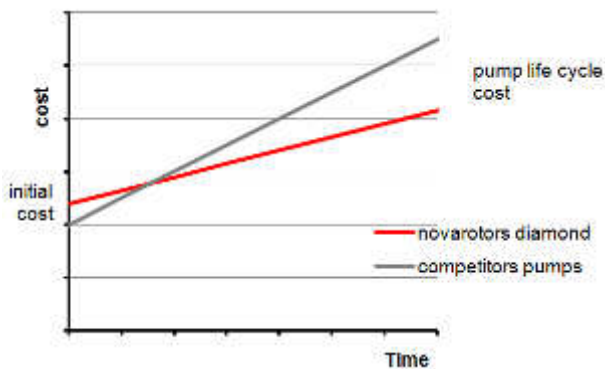


Efficiency: Maximum performance level, exceptional operating efficiency thanks to the optimum volumetric yield and high pressure and is consumption reduced to a minimum. All the Diamond series hydraulics efficiencies were calculated to guarantee the maximum found on today's market.

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 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.

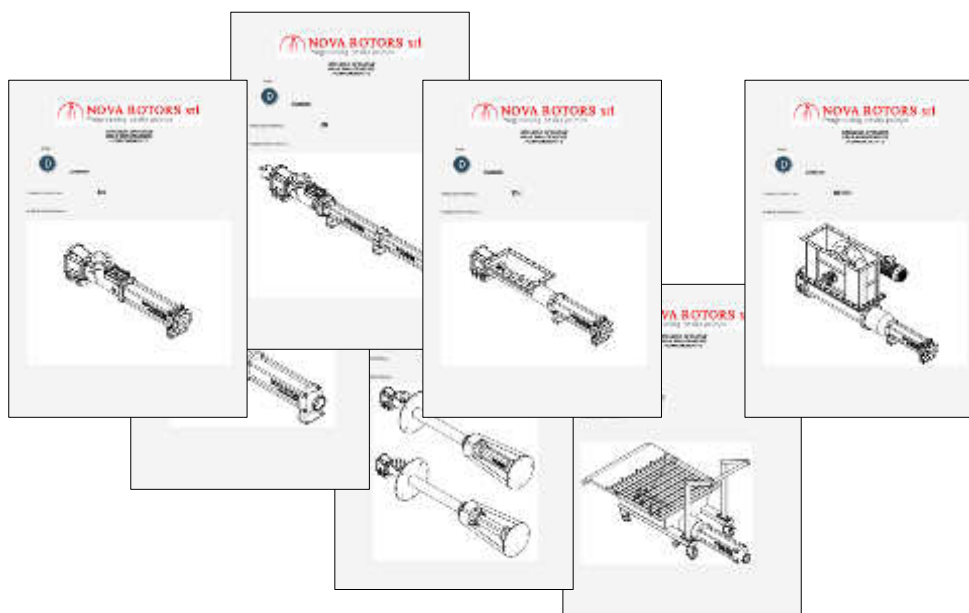


Maintenance: The Diamond series is designed to ensure easy maintenance and normally require the replacement of a minimum number of components. In particular the joint bushes allow the replace of the same without having to replace shafts and rotors. The costs of maintenance are really reduced. The cost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

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

Extremely strong housings, suitable to support drive load

Protection of the joint integrated at both ends of the auger feed screw.
Fundamental for pumping abrasive fluids containing solids blunt. It ensures a considerable increase of reliability of the coupling joint



The increased feed auger conveys highly viscous product to the hydraulics
Rotating parts are stainless steel as a standard, the feed auger can be either Carbon steel or 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.

Der durchflussoptimierte Druckstutzen steht in denselben Materialien wie das Sauggehäuse zur Verfügung, Flanschanschlüsse sind nach UNI EN / DIN oder ANSI lieferbar

Das patentierte Bolzengelenk, Herz der Diamond Baureihe, Kombiniert kompakte Bauweise, einfache Wartung und zuverlässige und lange Lebensdauer, ohne Kompromisse.

Verschiedene Wellenabdichtungen sind verfügbar:

- Packungsringe mit oder ohne Spürring
- Einfach wirkende Gleitringdichtung mit oder ohne Quench,
- Doppelt wirkende Gleitringdichtung in Back to Back- oder Tandem-Anordnung

Der Einbauraum entspricht dem Standard ISO EN 12756, so kann jede sinnvolle Dichtung eingefügt werden. Quench und Doppeldichtungen sollten mit Spülplänen oder Versorgungseinheiten entsprechen dem Produktionsprozess gefahren werden.

The Steckwellenverbindung mit Bolzen für Antrieb oder Lagergehäuse
Diese simple Lösung erlaubt beide Drehrichtungen und ist wartungsfreundlich.
Der Spritzring hält den Bolzen in Position, schützt gegen Korrosion und ist einfach ein- und auszubauen.

Drei Funktionen in einem Teil: 1) Stopfteil mit konischem Einlauf, 2) Substrat-Anschluss zur Vermischung des Trockensubstrates mit dem Flüssigsubstrat, 3) Steinfang mit Entleerungsdeckel und Drainage-Anschluss sowie einer Inspektionsklappe, damit Steine nicht durch die Fördererlemente gelangen und von Zeit zu Zeit entnommen werden können.

Rotor und Stator sind ausgelegt für hochviskose und feststoffbelastete Medien. Der Rotor, normalerweise aus Werkzeug- oder Edelstahl, kann mit verschiedenen Beschichtungen versehen werden, um die Standzeiten zu erhöhen. Verschiedene Elastomere stehen als Werkstoff für den Stator zur Verfügung.



AUSFÜHRUNGEN UND OPTIONEN

Gehäuse Materialien

Grundmaterialien:

S275JR, 1.4301 (AISI 304), 1.4571/1.4404 (AISI 316/L)

Materialien der Antriebswelle

Grundmaterialien:

S275JR, AISI 420, AISI 304, AISI 316, F51(Duplex),

Beschichtungen:

Hartverchromung HCP

Plasma-Oxyd-Verchromung (Keramik-Beschichtung)

Rotor Materialien

Grundmaterialien:

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

Wärmebehandlung:

Induktionshärten (nur bei AISI 420)

Beschichtungen:

Hartverchromung HCP

Plasma-Oxyd-Verchromung (Keramik-Beschichtung)

Wolfram Karbide HVOF

Stator Materialien

Grundmaterialien:

NBR, NBR Lebensmittel, NBR hell Lebensmittel

EPDM, EPDM Lebensmittel, EPDM hell Lebensmittel

FPM, FPM Lebensmittel

HNBR, HNBR Lebensmittel

SYLIKON

Buna-N (nur bei bestimmten Größen verfügbar)

HYPALON (nur bei bestimmten Größen verfügbar)

PTFE (nur bei bestimmten Größen verfügbar)

Grundplatten

Maschinenfüße

Grundplatte auf einstellbaren Füßen

Trageösen

Wägezellen

(Einzelheiten können der Broschüre „Bauseitige Optionen, Equipment und Installationen“ entnommen werden)

Anschlüsse

Flansche UNI 2278 PN16 (für 1 - und 2 –stufige Pumpen)

Flansche UNI 2284 oder 6084 PN40 (für 4-stufige Pumpen)

Flansche UNI 2285 PN64 (für 8-stufige Pumpen)

Gewindeanschlüsse nach BSP

Wellenabdichtungsarten

Stopfbuchspackung B01

Stopfbuchspackung mit Spürling B02

Einfachwirkende Gleitringdichtung G0K9

Einfachwirkende Gleitringdichtung mit Quench

Doppeltwirkende Gleitringdichtung Back to Back D0K9

Doppeltwirkende Gleitringdichtung Tandem K0K9

Spülplane und Versorgungssysteme

(Einzelheiten können der Broschüre „Wellenabdichtungen“ entnommen werden)

Optionen der Kuppelstange

Hohlschnecke

(Einzelheiten können der Broschüre „Bauseitige Optionen, Equipment und Installationen“ entnommen werden)

Sicherheits- und Schutzeinrichtungen

Temperaturfühler für Trockenlaufschutzeinrichtung (Standard bei ATEX Ausführung)

Druckschalter

(Einzelheiten können der Broschüre „Bauseitige Optionen, Equipment und Installationen“ entnommen werden)

Bedienungseinrichtungen

Schaltschrank

Schaltschrank mit Frequenzumformer

Antrieb mit integriertem Frequenzumformer

(Einzelheiten können der Broschüre „Bauseitige Optionen, Equipment und Installationen“ entnommen werden)

Equipment und Optionen

Edelstahlabdeckung für Statorrohr

Quenchbehälter

Motorschutzhaube

(Einzelheiten können der Broschüre „Bauseitige Optionen, Equipment und Installationen“ entnommen werden)

Zertifikate

CE

ATEX

EIGENSCHAFTEN

Einsatzparameter

Fördermenge:	bis zu 36m³/h
Förderdruck:	bis zu 24 bar für die Standard Baureihen
Temperatur:	-40°C bis zu 150°C

Typische Anwendung

Biogasanlagen für Industrie und Landwirtschaft

TABELE DER TYPEN UND BAUREIHEN

Fördermenge und Druck

Size	Model	Qmax 2 bar [m³/h]	rpm max	P max [bar]
D060	20L1	6,8	120	6
	10K2	3,4	120	12
	4K4	1,6	120	24
	30L1	8	120	4
	16K2	4	120	8
D120	40L1	13	120	6
	20K2	6	120	12
	10K4	3	120	24
	60L1	20	120	4
	30K2	10	120	8
D300	80L1	25	120	6
	40K2	12,5	120	12
	20K4	6	120	24
	120L1	36	120	4
	60K2	18	120	8



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No.:2010/915



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