Pumps for the ceramic industry

Manage all types of liquids such as slip, glaze, sludge and wash water
Manufacturing ceramics is a delicate process with special materials. The abrasive nature of slip and the high viscosity of slurry need dedicated technology to transport the liquid material. Pumps must be capable of applying glaze to the ceramics in a dosing process. Robust and flexible Vogelsang pumps are the solution for any pumping process in ceramics production.

Vogelsang pumps are positive displacement pumps, with a high tolerance to solids and abrasive materials. The pumps are able to prime and are resistant to dry running. By utilizing converter technology, the pumps can be used for dosing processes. They can also be used to fill or empty tanks given their ability to change delivery direction. Vogelsang pumps minimize production costs. Their high durability and the QuickService concept for easy maintenance keep the production process running and dramatically reduce manual intervention time compared to other direct displacement pumps. The patented HiFlo® technology minimizes pulsation, which is a well-known problem for diaphragm pumps. Vogelsang pumps keep your process as stable as possible.

Handling slip in the storage tanks at low pressures
Vogelsang has the ideal solution for all transferring and conveying operations, such as filling tanks or supplying spray dryers. The pumps easily manage the pumping of slurry even with high viscosity. Their ability to reverse the flow direction and self-priming capabilities for up to 8 meters of water column allow the most varied applications for handling slip.

Continuous and discontinuous feed mills
Thanks to their robust design, reliability and resistance to incompressible solids, Vogelsang pumps are ideal for pumping slip up to a maximum of 80 °C. The ability to adjust the flow rate with an inverter allows feeding and tracking of the mill at all stages of the process. In addition, our QuickService design allows fast replacement for areas prone to wear.

Handling glazes at low pressures
Perfect for pumping a wide range of products from slip to glaze. Vogelsang rotary lobe pumps are perfect for the preparation of glazes and other fluids with high viscosity or fluids that require gentle pumping. Our pumps allow the convenient loading and unloading of discontinuous mills.

Handling of washing water with solids and supply tanks
When cleaning or emptying tanks, Vogelsang pumps are the perfect choice. Choose between stationary installation or complete mobile units. All Vogelsang pumps are compact and easy to maintain.

Pumping sludge, sewage and gray water
Vogelsang pumps are used in all types of wastewater treatment plants and can be adapted to any plant. They are highly efficient at pumping viscous fluids, which reduces maintenance costs and power consumption compared to centrifugal pumps.
Original Vogelsang rotary lobe pumps

We invented and perfected them – today, they set the standard for reliable pump technology worldwide. Wherever well-engineered, robust and powerful pump technology is required, you will find Vogelsang rotary lobe pumps.

The cost-effective solution for a wide range of pumping tasks
As non-contacting, rotating, positive displacement pumps, they are suitable for a wide range of applications. Thanks to pulsation-free running HiFlo® rotary lobes, a speed proportional delivery rate and high resistance to both foreign matter and dry-running, the pumps offer the optimum solution for a wide range of pumping tasks. They are also incredibly easy to maintain.

The advantage of expertise
Vogelsang rotary lobe pumps are used all around the world, proving their quality in a wide variety of applications. We are constantly developing the technology for Vogelsang rotary lobe pumps, expanding the range of applications and improving ease of maintenance. The patented InjectionSystem and Cartridge mechanical seal technologies, the unique HiFlo lobes are just a few of many examples. Constant innovation for maximum efficiency and cost-effectiveness is what you can expect from Vogelsang.

Backed by exceptional service
A pump must work efficiently and also be accessible, easy to handle and trouble-free when it comes to service and maintenance. Since we are familiar with your everyday needs, we integrated all of this in our QuickService concept – on-site service and maintenance, in next to no time. From the first contact, we provide comprehensive consulting and supervision throughout the entire lifetime of your Vogelsang rotary lobe pump. This guarantees maximum efficiency, up to 75% less time is required when compared to other positive displacement pumps.

The principle
The rotary lobe pump is a positive displacement pump. The principle is ingeniously simple: the rotating lobe seals the medium on the suction side in a chamber between the housing and lobe. The medium is pumped at the top and bottom of the pumping chamber through the pump to the discharge side. This enables a particularly compact type of construction with gentle pumping, good priming and dry-running characteristics, as well as easy access to the pumping elements.

Control options
To significantly increase the performance and efficiency of your rotary lobe pump, innovative control options are available. Pressure, power consumption and speed can be constantly monitored and such parameters are compared with each other in an intelligent way. The optional Performance Control Unit (PCU) automatically detects the load, ensuring that the pump maintains optimal levels of performance.

Actuators
There is a wide range of electric actuators available based on geared motor or belt drive technology. Hydraulic or combustion motors are available as an alternative. All pumps can be designed to regulate the control functions with a frequency controller, ensuring optimum performance at all times.

Overview of the advantages of Vogelsang rotary lobe pumps
- Compact design, only 70% the size of typical positive displacement pumps
- Self-priming and dry-run resistant
- Resistance to incompressible solids thanks to the innovative InjectionSystem
- Changeable flow direction
- Pulsation-free operation with HiFlo® lobes
- Minimal downtimes

Overview of the advantages of the QuickService design
- QuickService on-site maintenance concept
- Pump stays in the pipeline during maintenance
- Minimal space requirements
- Cost efficient wear plates and pump housing design

Special models
On request, we can design special models to meet your needs:
- Complete mobile units
- Two-stage pumps for washing sprayers
- Various options for drives
- Pumps with integrated crushing device for grey and black water

Original Vogelsang rotary lobe pumps
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LifeGuard

Downtime leads to added costs. This is why Vogelsang rotary lobe pumps are specifically designed for long service life and maximum ease of maintenance. LifeGuard guarantees a maximum lifetime for the pump. The following specific factors contribute to this.

The LifeGuard Factors

Maximum shaft diameter
The shafts of all Vogelsang pumps have maximized diameters. This prevents shaft deflection, excessive lobe wear and reduced performance.

Shafts without cranks
Not weakened by cranks and recesses. This provides ultimate safety even at maximum operating pressure. This is why we provide a lifetime warranty for shaft breakage in pumps used under normal conditions of use.

QuickService bearing cover (option)
Supported shafts ensure minimal wear on the lobes.

Wear-resistant materials and coatings
E.g. ceramic and tungsten carbide

Wear plate system made of hardened steel
The pump’s interior can be completely fitted in wear plates made of hardened steel. This prolongs the pump’s lifetime considerably.

Injection System
The innovative housing design ensures optimum flow of foreign matter through the pump. This prevents collisions with the lobe tips and reduces wear. In field trials, the service life was increased by up to 150%.

Multi-wing lobes
Lobes with multiple sealing lines increase the volumetric efficiency (multi-stage pressure increase).

V-interlocked lobes
This provides compensation of the axial forces. The load on the bearings is minimized, maximizing the lifetime. The high-quality connection to the casting core and seamless rubber coating with special elastomers increases the lifetime of the rotary lobes.

HiFlo® technology
Pulsation-free pumping achieves impressively quiet operation and results in longer lifetimes for the drive, coupling and connected pipes.

Marathon style multi-stage pumps
The service life is prolonged dramatically thanks to multiple pressure stages.

Quality Cartridge mechanical seal
A complete unit for simple and quick replacement of all shaft seal components provides secure protection against failure of the sealing and damage to the pump and gearbox.

Service and maintenance have never been so easy

Innovative pump technology includes rapid maintenance, cost-saving service and maximum availability. This is why we developed a completely new service concept for all pumps in the VX and IQ series. It ensures significantly reduced labor, considerably fewer spare parts and lower operating costs.

Maximum availability thanks to minimum maintenance requirements

1. Open the pumping chamber: simply loosen a few screws, remove the pump housing and you have free access to the rotary lobes. This makes it quick and easy to inspect the lobes and pump housing. If necessary, you can also replace the wear plate in the pump housing.

2. Change the rotary lobes: loosen the strain bolts, remove the pressure disks on the lobes, place the puller on the lobes and remove them.

3. Remove the wear plates: after you have removed the lobes, all you have to do is loosen two screws and you can remove the wear plate at the gearbox side.

4. Remove the Quality Cartridge mechanical seal: using a simple rotor puller, you can now remove the Quality Cartridge mechanical seal as a complete cartridge, including the gear seal, and then replace it just as easily.

5. Assembly: insert the wear plate at the gearbox side, fasten it with two screws, install the lobes and fasten them on the shaft with pressure disks, fit the pump housing and screw it in place.

For all VX and IQ series pumps we can safely say: complex and time-consuming servicing is now a thing of the past.

Example of lobe change in an IQ series pump
Vogelsang VX series
The complete range for a wide range of applications and easy maintenance

The VX series
Rotary lobe pumps in the VX series have an impressive range of sizes and designs, numerous equipment and material variants, and many drive possibilities and installation options. All models have two things in common: a compact design and easy maintenance.

Advantages of the VX series at a glance
- Fast access to the pumping chamber by removing the cover
- On-site service and maintenance
- Self-priming and dry-running resistant
- Shaft warranty
- Free passage up to max. 90 mm
- Pressure up to 16 bar
- Optional: 100% stainless steel

<table>
<thead>
<tr>
<th>Model</th>
<th>Pressure range*</th>
<th>Max. delivery rate</th>
<th>Max. speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>VX100</td>
<td>4.0 – 10 bar</td>
<td>50 m³/h</td>
<td>1,000 rpm</td>
</tr>
<tr>
<td>VX136</td>
<td>5.0 – 16 bar</td>
<td>364 m³/h</td>
<td>800 rpm</td>
</tr>
<tr>
<td>VX186</td>
<td>3.0 – 16 bar</td>
<td>1,025 m³/h</td>
<td>600 rpm</td>
</tr>
<tr>
<td>VX215</td>
<td>2.5 – 7 bar</td>
<td>1,417 m³/h</td>
<td>540 rpm</td>
</tr>
<tr>
<td>VX230</td>
<td>5.0 – 12 bar</td>
<td>1,234 m³/h</td>
<td>540 rpm</td>
</tr>
</tbody>
</table>

* Maximum pressure varies according to model

Break-proof shafts
VX pumps have sturdy, break-proof, bend-resistant shafts with a large cross section and without cranks and recesses to weaken them. This minimizes shaft deflection and start-up wear. We provide a warranty against internal shaft breakage on all VX rotary lobe pumps.

Axial wear plates
The wear plates can be replaced without dismantling the pump from the pipe and without disassembling the pump housing segments. This makes maintenance easier and minimizes downtime.

Bearing
The small distance between the bearing and lobes minimizes shaft deflection and reduces start-up wear.

Gearbox housing
The rigid gearbox housing ensures a long lifetime for the bearing and gearbox.

Adjustable pump housing segments
Wear on the pump housing segments is minimized without using additional parts. This makes the most of the material and prolongs the service life.

Quality Cartridge mechanical seal
The Quality Cartridge mechanical seal comes as a complete unit that has passed a functional quality control in the factory. In contrast to conventional mechanical seals, all sealing components are always replaced. This protects against sudden failures of the seal and potentially fatal pump damage. The Quality Cartridge mechanical seal is so simple to replace that assembly errors are easily avoided.

Conclusion on using the VX pumps: all the wear parts in the pump chamber can be changed on site without removing the unit from the pipe. After the lobes, wear plates and radial wear plates have been replaced, the pump returns to its full capacity.

Technology that pays off

- InjectionSystem
  The innovative InjectionSystem enables foreign matter to be injected directly into the opening pump chambers. This prevents collisions with the lobe tips. The internal sealing of the pump is also increased.

- QuickService design
  The rotary lobes, gasket, and wear plates can be replaced on-site without removing the pump. This saves money and ensures the highest possible level of system availability.

- Axial wear plates
  The wear plates can be replaced without dismantling the pump from the pipe and without disassembling the pump housing segments. This makes maintenance easier and minimizes downtime.

- Radial wear plates
  Additional radial wear plates can be installed to fully protect the pump chamber. Vogelsang radial wear plates are made of special hardened steel. This dramatically increases pump lifetime.

- HIFlo lobes
  The pulsation-free HIFlo lobes ensure very quiet running and extend the lifetime of the drive and coupling. In addition, the suction capacity is increased by reduced cavitation, enabling higher limit speeds and larger delivery rates.

- Bearing
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Vogelsang IQ series

The most modern pump technology: compact design, flexible installation options, quicker and more cost-effective maintenance make the IQ series rotary lobe pumps unique.

IQ series – a new concept
The pump housing is a complete unit. The pumping elements can be accessed freely in a few easy steps while the pump remains firmly screwed into the pipe.

IQ series – easy to integrate
The connecting parts used for the variable series satisfy most installation requirements. This means that the IQ series pumps can be quickly and easily attached or installed in a wide range of positions, including to tank vehicles and mobile units, without the need for special connections.

IQ series – for low operating costs
The number of central spare parts has been halved in comparison to the conventional design. The cost of replacement parts is reduced accordingly. The concept of the IQ series allows further cost savings at the time required for cleaning and replacing parts has been significantly reduced. IQ pumps are designed so that less than half the time is required to replace all wear parts – including rotary lobes, wear plates, pump housing and gaskets – compared to rotary lobe pumps that are commonly found on the market.

IQ series – for special applications
The nominal delivery rate of IQ pumps is up to 77 m³/h at pressures up to max. 8 bar. The IQ series is perfectly suited to demanding applications with abrasive media.

Advantages of the IQ series at a glance
- Quicker access to the pumping elements
- Pump always remains firmly screwed into the pipe during service and maintenance work
- Integrated dry-running protection
- Self-priming, good suction capacity
- Easy and flexible integration

Rotary lobe pumps | Ceramic industry

Greater cost-effectiveness thanks to reduced maintenance and service

Vogelsang IQ series

Dry-running protection and optimum suction
Thanks to the innovative design of the gearbox housing with its built-in liquid buffer, the IQ series has excellent dry-running protection and a high suction capacity.

Flexible connecting parts
The universal connection options for all pumps in the IQ series make it possible to adapt them to a wide range of installation situations in a few simple steps without special connectors.

Axial wear plates
The two wear plates can be replaced without removing the pump from the pipe. This makes servicing easy and minimizes downtime.

Innovative design
The innovative design of the IQ series makes it possible to leave the pump firmly screwed into the pipe during service and maintenance work.

Drain plug
The drain plug is intelligently positioned to allow for easy and clean draining of the pump chamber for service and maintenance work.

Quality Cartridge mechanical seal
The Quality Cartridge mechanical seal comes as a complete unit that has passed a functional quality control in the factory. In contrast to conventional mechanical seals, all sealing components are always replaced. This protects against sudden failures of the seal and potentially fatal pump damage. The Quality Cartridge mechanical seal is so simple to replace that assembly errors are easily avoided.

Flexible connecting parts
The two wear plates can be replaced without removing the pump from the pipe. This makes servicing easy and minimizes downtime.

40% power reserve
Larger lobes and pump housings can be installed in the IQ series without making any modifications; this can increase the capacity by as much as 40%.

Pump chamber
The pump housing can be removed in a few simple steps and it can be replaced if necessary. The pumping elements are easily accessible for servicing and maintenance.

Series Max. pressure range Max. delivery rate Max. speed
IQ112-81Q 8 bar 55 m³/h 900 rpm
IQ112-114Q 5 bar 77 m³/h 900 rpm

Summing up the IQ series technology: compact construction, flexible connectors, excellent dry-running protection and the option of increasing capacity by up to 40% make it easier to install and handle during operation. This saves significant time and money each and every day.
Our company
Innovation and progress have been hallmarks of Vogelsang for over 80 years and have made us a leading global plant engineering company. Time and time again we have achieved significant milestones of progress. Today, we develop, manufacture and distribute some of the most innovative and reliable machines and systems for agriculture, municipalities and industry.

With our overseas subsidiaries and service centers, we are world-renowned for advanced engineering and customer-friendly solutions.

Our product range
We offer solutions for the following areas:
- Industrial sector
- Waste water treatment
- Biogas
- Railway waste water disposal
- Agriculture

We offer a broad range of products:
- Rotary lobe pumps
- Maceration technology
- Distributors
- Spreading technology
- Supply and disposal systems
- Complete solutions

We also offer customized solutions for your specialized applications.

How to reach us
Vogelsang is present worldwide. Visit us online for more information about our company and wide range of services:
vogelsang.info

We are here to assist you and look forward to speaking with you.