



# RESISTANT TECHNOLOGY FOR TOUGH MEDIA

Vogelsang rotary lobe pumps  
for the sugar industry

**V**OGELSANG







# YOU CAN RELY ON IT

**Quality, experience and  
expertise guarantee  
future-proof technology**

**As the inventor of the elastomer-coated rotary lobe pump, Vogelsang has ranked among the world's leading mechanical engineering companies in the area of pumping for decades. Especially in industrial sectors where demanding and viscous media with a high share of solids need to be conveyed, the responsible engineers like to recommend our machines due to their outstanding quality.**

Based on our extensive and varied experience, as well as our continuous research, we develop innovative, industry-tailored components and systems that ensure long-term disruption-free operations. Neither abrasive particles nor high temperatures affect the high functionality of the pumps. Both the production process and the material quality of our machines bespeak how seriously we take our commitment to our customers. Their adaptability and versatility not only make them very sustainable, it facilitates an efficient workflow including easy handling and maintenance.

# PERMANENT POWERHOUSES

**The internationally  
established Vogelsang rotary  
lobe pump for the transfer  
of viscous fluids**

## **Cost-effective, rugged and built to solve the problem**

Our customers in the sugar industry require a robust pump that can gently handle high viscosity liquids with abrasive particles even at high temperatures. Vogelsang pumps are able to meet these requirements. An extensive selection of materials, components and design options as well as the knowledge to apply them in the most cost-effective way allows us to find the best solution for the sugar industry.

Vogelsang rotary lobe pumps are designed to provide trouble-free, maintenance-friendly and economical pumping. As noncontacting, rotating positive displacement pumps, Vogelsang pumps can reliably handle a wide range of liquids, especially highly viscous and abrasive media. They are ideally suited to various processes in beet sugar production, cane sugar production and in the sugar refining industry.

Thanks to the pulsation-free HiFlo lobes, which are driven by external timing gears, Vogelsang rotary lobe pumps provide gentle pumping that minimizes the unwanted damage of sugar crystals, increasing the efficiency of the plant. The housing geometry designed with InjectionSystem optimizes the flow of foreign matter through the pump, increasing the service life by as much as 150%.

When it comes to maintenance, Vogelsang rotary lobe pumps provide a huge advantage. All maintenance work can be easily performed inline without having to dismount the unit from the pipe. The compact and space-saving design allows Vogelsang pumps to be integrated into any system. They require almost 70% less space than a typical progressive cavity pump.

## **Most typical applications for Vogelsang rotary lobe pumps in the sugar industry**

### **From molasses to milk of lime**

Because of the ability of the Vogelsang rotary lobe pumps to pump highly viscous fluids containing solids, even at high temperatures, they can handle many fluids without trouble in beet sugar production, cane sugar production or even in the sugar refining industry, such as: molasses, magma, massecuite, thick juice, syrup, green molasses, sludge, milk of lime and other flocculants.

### **Trouble-free pumping of molasses**

Vogelsang rotary lobe pumps are ideally suited for handling all types of molasses, from light or first molasses up to thick blackstrap molasses. Vogelsang pumps are designed to pass noncompressible solids without locking up, so sugar crystallization is not a problem. Adding higher pressure inside the buffer chamber maintains a clean food grade lubricant between seal faces.

Temperature is an issue with many types of pumps; however, Vogelsang offers both elastomer coated lobes for pumping liquids at lower temperatures, and solid steel lobes with a stainless steel buffer chamber for higher temperatures.

### **Magma & massecuite**

Due to the Vogelsang lobes, which are driven by external timing gears, the sugar crystals in magma or massecuite are treated with care and not damaged during the pumping processes. Vogelsang rotary lobe pumps provide a gentle and smooth pumping action, which avoids pulsation. In order to prevent leakages of product, Vogelsang can use a double acting mechanical seal in their pumps for stringent applications as magma or massecuite.

### **Mud clarifier/thickener underflow/sludge**

In terms of operation, Vogelsang pumps are well suited to handle sand and other abrasives. If the pumps have to operate under high temperatures, steel lobes are the best solution. For very abrasive sludge, Vogelsang offers a coating of tungsten carbide on the lobes, housing segments and wear plates.



# MODULAR SYSTEM FOR TAILOR-MADE SOLUTIONS

**Highly developed  
components customized  
to cover all your needs**

The principle is ingeniously simple: the rotating lobe seals the medium on the suction side in a chamber between the housing and the lobe. The medium is pumped at the top and bottom of the pump 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.

## **Compact and space saving**

Vogelsang pumps can be integrated into any system. The service friendly design can be used for a variety of applications and enables installation in the tightest of spaces. The universal connection options for all pumps in the IQ series, for example, make it possible to adapt them to a wide range of installation situations in a few simple steps without special connectors.

## **Quick and low-cost maintenance**

The QuickService design of Vogelsang pumps enables fast and low-cost maintenance that can be performed on site without having to dismount the pump.

## **Quality Cartridge mechanical seal**

The complete, pre-installed unit includes all the components. Special variants for abrasive applications are also available, for example the double mechanical seal.

## **Tailored to your needs**

The Vogelsang technical team designs each pump to meet the needs of each application. Every delivered pump is the best solution for the specific application, perfectly combining all the different features, options and materials. For sugar industry applications Vogelsang offers steel, stainless steel and elastomer coated lobe options depending on the temperature and abrasiveness of the liquid. This benefits the customer both in equipment life and in product quality.

### **InjectionSystem: longer service life and lower operating costs**

In rotary lobe pumps with a conventional design, foreign matter does not immediately enter the pump chamber, but instead rotates in front of the pump chamber, potentially damaging the lobe tips.

In the InjectionSystem, an adapted housing design ensures that foreign matter is optimally fed into the pump. It injects foreign matter directly into the pumping chambers as they open up. This reduces collisions and minimizes the resulting damage to the lobe tips. The internal sealing of the pump is also improved. This increases its effectiveness and suction capacity.

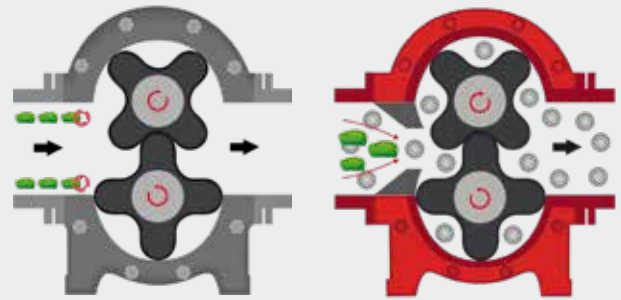
### **Optimized for the application at hand: the lobes for the VX and IQ series pumps**

If the focus is on high volumetric efficiency and pulsation-free running, the patented HiFlo and HiFlo plus lobes are the ideal choice. Thanks to their helical coiling, they enable constant pumping and more sealing lines. If sturdy operation is your priority, classic two-wing-lobes are perfect. Both lobe types are also available with replaceable lobe tips on request.

The material used for the lobe is just as important as its design: from classic elastomeric coatings to solid-material lobes made of stainless steel, we can provide just the right, long-lasting lobe material for your medium.

Coated lobes are ideally suited for pumping molasses, magma or massecuite with not very high temperatures. For higher temperatures solid steel or even stainless steel lobes are recommended. For pumping mud clarifier, thickener underflow or sludge the best solution is steel lobes, due to the combination of high temperatures and the high abrasiveness of the waste.

Some coated lobes commonly used by Vogelsang are: NBR, NBR white, EPDM-SL, EPDM-AL, EPDM white, CSM, FPM, PUR or PU.



A vortex forms upstream from the inlet in rotary lobe pumps of conventional design. Foreign matter that damages the lobe tips becomes trapped here.

The Vogelsang InjectionSystem prevents vortex formation. It reduces damage due to foreign matter and increases efficiency as well as intake capacity.



The material used for the lobe is just as important as its design: from classic elastomeric coatings to solid-material lobes made of stainless steel, we can provide just the right, long-lasting lobe material for your medium.



For more stringent requirements the lobes are also available as a solid material consisting of steel, stainless steel or nitrided steel.



Rotary lobe pump of the VX series



# RELIABLE PERFORMANCE, FLEXIBLE APPLICATIONS

## The multi-tasking Vogelsang VX series

### High variety, low maintenance

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

### Materials for any application

The VX series is available in the huge range of materials needed for the very stringent requirements in the sugar industry, such as stainless steel for molasses or magma at high temperatures, or a coating of tungsten carbide for very abrasive media.



Pump housing segment with  
Injection module



Radial wear plate

InjectionSystem or radial wear plates: this is how we can extend the lifetime of our rotary lobe pumps.



Quality Cartridge sealing  
technology for professionals



All the wear parts in the pump chamber can be changed on site without having to dismount the unit from the pipe.

### Advantages of the VX series

- Fast access to the pumping chamber by disassembling 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

# THE ORIGINAL: POPULAR & PROVEN

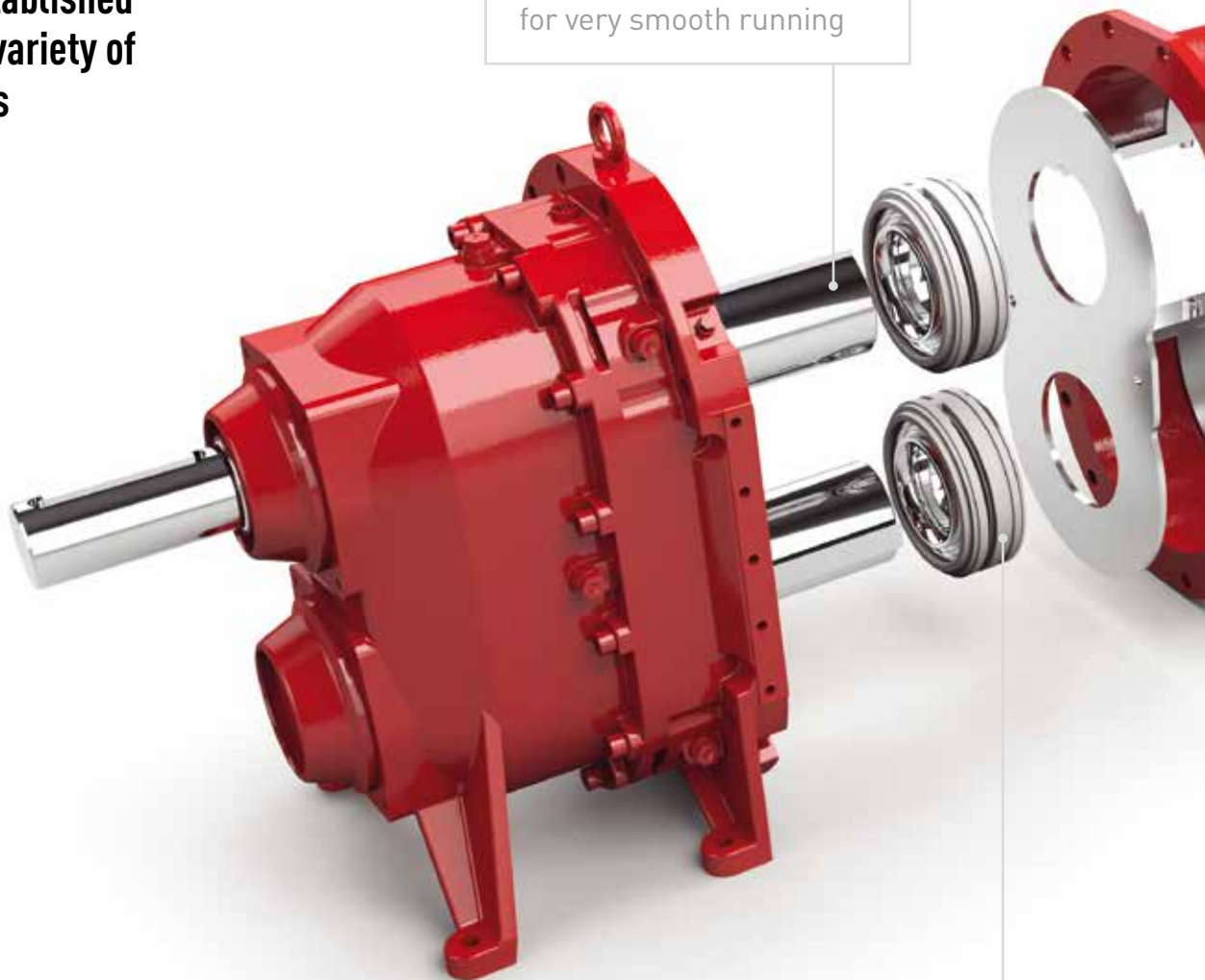
**Vogelsang rotary lobe pumps –  
tested and established  
in the widest variety of  
pumping tasks**

## **Adjustable pump housing segments**

Optimum utilization  
of materials for  
prolonged service life

## **Break-proof shafts**

Maximum shaft diameters  
for very smooth running



## **Component-based design**

Major savings from  
single part replacement

An exploded view of a rotary lobe pump assembly. The components are arranged from left to right: a red inlet/outlet flange, a silver shaft with a black mechanical seal, two black lobes, a silver axial wear plate, a red radial wear plate, and a red pump housing. Callout boxes with lines pointing to specific parts provide technical details.

### HiFlo lobes

Pulsation-free pumping for very smooth running

### QuickService design

Quick-and-easy access to all the medium-affected parts without dismantling the pump

### Axial and radial wear plates

Lined pump housing made from highly wear-resistant special steel to extend maintenance intervals and make servicing easier

### InjectionSystem

Unique! The first integrated foreign matter protection for rotary lobe pumps paired with greater internal sealing

### Quality Cartridge mechanical seal

Professional sealing technology for maximum reliability with flushing option

### 100% renewal of the pumping chamber

Capacity like on the first day of use – after replacement of medium-affected parts

## What we offer

We provide solutions in the following sectors:  
AGRICULTURAL TECHNOLOGY, BIOGAS,  
INDUSTRY, TRANSPORTATION, WASTEWATER



## Our broad range of products and services

- Consulting and service
- Data management and control technology
- Disintegration technology
- Individually tailored solutions for special applications
- Pumps and pump systems
- Solid matter feeders
- Solids reduction, separators and mixers
- Spreading technology
- Supply, disposal and cleaning

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Rotary lobe pumps for the sugar industry\_EN\_12207719\_1000\_MET0818 – Printed in Germany

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