POWERFUL AND RELIABLE AGRICULTURAL TECHNOLOGY

Pumps and cutters for agriculture
As a pioneer in agricultural technology, Vogelsang remains one of the leading mechanical engineering companies in this sector. Farmers and contractors worldwide rely on the innovative design and high quality standards of our rotary lobe pumps and cutters.

Based on our diverse experience and constant research, we develop powerful and need-based machines that also impress with their low maintenance requirements and exceptional durability.

Both the production and material quality of our rotary lobe pumps and cutters are testimony to our responsible actions for the benefit of our customers. Their adaptability and versatility foster economy as well as sustainability, and allow agricultural operations to react effectively to current circumstances and any requested changes.
MAXIMIZE THE VALUE OF LIQUID MANURE AS A MATERIAL

Liquid manure as a nutrient source
Liquid manure and digestates are essential valuable materials in agriculture, and the basis for a good nutrient supply for soils and crops and a successful harvest. Anyone who uses these natural fertilizers correctly and precisely can significantly reduce the need for organic fertilizer. Not just any pump and shredding technology can deliver this organic fertilizer to the field effectively. The liquid manure not only contains fibrous material, it also generally contains all kinds of foreign matter. Vogelsang can support you in managing the processes involved by providing innovative and reliable technology that is backed by decades of experience.

Pumps for the farm
Transferring, draining, filling – whatever the day brings, the job has to be done. With their many useful characteristics, Vogelsang rotary lobe pumps help you in your daily work. Among other features, our pumps include the InjectionSystem and Cartridge mechanical seals, which make the pumps more resistant to fibrous and foreign material.

Equipment for spreader vehicles
Less foam, complete filling, large suction capacity and even draining: with the low-maintenance, compact Vogelsang rotary lobe pumps and RotaCut cutters, you can make the most of your spreader vehicle’s potential.

Mobile solutions
Vogelsang provides maximum pumping power for effective liquid manure spreading with field-side containers, filling stations and tankers: sophisticated solutions with powerful technology that improves your efficiency.

Variety of solutions
Vogelsang pumps offer a variety of configurations: permanently installed, on a three-point base, with electric or hydraulic motor, or with PTO drive.
Overview of Vogelsang agricultural technology

Rotary lobe pumps

**R series**
- Sturdy pump technology for simple applications
- Performance: max. 5 bar, max. 6,000 l/min.

**FX series**
- Developed specifically to meet the tough demands of agriculture
- Circulating oil lubrication makes it easy to operate
- Performance: max. 8 bar, max. 4,500 l/min.

**VX series**
- Powerful top technology
- Long service life and low maintenance requirements thanks to HiFlo lobes and InjectionSystem
- Cartridge mechanical seal
- QuickService concept for fast wear part replacement
- Performance: max. 16 bar, max. 23,630 l/min.

Cutters

**RotaCut® MXL**
- Incomparable shredding technology for high reliability and economy
- Including a heavy material separator for use on a tanker increases operational safety

Filling technology

**PowerFill**
- Filling aid for vacuum systems
- Saves up to 30 percent of time when filling the tank and homogenizes the liquid manure during filling

**FillMaster**
- Effective filling stations
- Problem-free filling of liquid manure tank vehicles no matter what the location
Vogelsang pumps are powerful, self-priming, reversible and, first and foremost, impervious to foreign matter. They are now an indispensable component of tankers. No wonder that Vogelsang rotary lobe pumps have become the epitome of liquid manure pumps in the agricultural sector in the past 30 years. After all, rugged technology is particularly necessary here and Vogelsang machines have proven their reliability again and again for transferring, pumping and filling.

**Optimal liquid manure management**
Operational safety and speed are the crucial factors for optimum liquid manure management. Tanks or self-propelled vehicles equipped with rotary lobe pumps offer both to facilitate effective delivering of liquid manure and digestates.

**Integrated mixing**
Active transferring/circulation homogenizes the liquid manure in the tank. This prevents a buildup of fibrous matter.

**Even distribution**
The pump system spreads the liquid manure constantly and evenly, regardless of how much liquid is in the tank or how much pressure there is. Even application is paramount for using liquid manure as an organic fertilizer.

**More volume, less foam**
- In pump tanks, the vacuum remains constant and powerful throughout the entire filling process
- Minimum loss of suction power for liquid manure pits to depths of up to eight meters
- Low foaming
- 30 percent time advantage when filling, compared with vacuum tanks
- Full tank volume can be used
The R series
RUGGED AND EASY TO USE

The R series as a reliable liquid manure pump for farms and fields

The R series at a glance
• 3 different series with up to 7 different capacity levels
• Up to 6,000 l/min.
• Pressures up to 5 bar

With their simple and sturdy equipment, Vogelsang rotary lobe pumps in the R series are the endurance runners in agriculture. The rotary lobe pumps have a double bearing, a generously dimensioned shaft diameter and a basic selection of sizes, lobes and materials. The R series is particularly well suited as a liquid manure pump around the farm, as a filling and draining pump for tankers or as a mobile pump. Like all Vogelsang rotary lobe pumps, the R series is self-priming, very resistant to dry running and can be operated in both flow directions. The offset arrangement of the rotary lobes ensures running with low pulsation.

Features of the R series rotary lobe pumps
• Self-priming
• Resistant to foreign matter
• Straight rotary lobes
• Axial wear plates made from highly wear-resistant special steel
Materials in the R series
The pump chamber for the R series is made of gray cast iron, with good anti-friction characteristics and a strong resistance to abrasive wear. The face sides, which are subjected to greater strains, are protected from wear by high-strength special steel plates.

Lobes in the R series
We have developed special compounds for the elastomer that surrounds the lobe core in our rotary lobe pumps. They make it possible to tailor every pump to the specific medium and guarantee extra durability. We have a range of options available for lobes in the R series, e.g., NBR or SBR.

Drive types in the R series
- Cardan shaft
- Hydraulic motor
- Geared motor
- Combustion motor

Quick maintenance: The RP series
The RP models of the R series are designed as QuickService rotary lobe pumps for rapid and easy lobe replacement. These pumps remain fully installed when the lobes are being replaced.

SPECIFICATIONS

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The R136 series is also available with the InjectionSystem on request.

* Maximum, theoretical capacity. In practice, the capacity is normally lower, depending on pressure difference, medium viscosity and pump installation. We would be happy to configure the best rotary lobe pump for your application with the help of our computer-assisted design software.
The FX series
MAKING THE BASICS BETTER

The FX series makes everyday life easier and reduces operating costs

The FX series at a glance
• Different capacity levels
• Up to 4,500 l/min.
• Pressures up to 8 bar

The FX series by Vogelsang was developed specially for the needs of farmers. It fulfills the special requirements of liquid manure as the medium, is easy to operate and is highly economical in operation thanks to its quality and ease of maintenance. As a professional liquid manure pump without torque boost, it offers a max. performance of 8 bar and a max. 4,500 l/min.

Lubrication no longer necessary
Sometimes it’s the little things that make a pump part of the FX series: Vogelsang eliminates lubrication from your list of jobs. Simple and effective oil circulation lubrication means that all gaskets are constantly lubricated and the grease gun remains on the shelf.

Features of the FX series
• Block ring seal
• Axial wear plates made from highly wear-resistant special steel
• Rotating separation plate – low energy consumption
• Circulating oil lubrication – no follow-up lubrication of the pump
Pump liquid manure professionally without increasing torque
Liquid manure contains a lot of fibrous material that gathers in gaps and cavities and can increase the torque. This increases wear, wastes pumping power and ultimately energy. The FX series rotates the separation plate with the pistons: one less fiber trap, combined with greater pump power and lower diesel or electricity consumption.

Block ring seals for longer pumping times and reduced service times
Mechanical seals are significantly more durable than radial shaft seals. The FX series uses Vogelsang’s specially developed block ring variant of the mechanical seal. The special block increases the pump’s resistance to fibers in the liquid manure even further.

FX series rotary lobes
Depending on the medium, Vogelsang offers the FX series with different elastomer compounds as a coating for the rotary lobe cores, e.g., NBR or SBR.

FX series drive types
• Cardan shaft
• Hydraulic motor
• Electric motor
• Combustion motor

SPECIFICATIONS

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* Maximum, theoretical capacity. In practice, the capacity is normally lower, depending on pressure difference, medium viscosity and pump installation. We would be happy to configure the best rotary lobe pump for your application with the help of our computer-assisted design software.
The VX series
SIMPLY MORE ECONOMICALLY BUILT

The VX series for longer runtimes, quick maintenance and high levels of operational safety

The VX series at a glance
• 5 different series with up to 8 different capacity levels
• Up to 23,600 l/min.
• Pressures up to 16 bar

With pumping outputs of up to 16 bar and up to 23,600 l/min, VX series rotary lobe pumps provide effective support for any size of tank with maximum performance. Based on requirements, there is a large selection of models, lobe types, materials and protective coatings available for the VX series. Everything is designed to increase operational safety in the tank and to lengthen the service life. To do this, the VX series combines high-end pump technology with compact dimensions.

VX series rotary lobe pumps from Vogelsang are used in any applications requiring compact, self-priming pump technology that is resistant to dry running, which demand high ease of maintenance. A range of technical innovations provide low downtimes, minimize operating costs and ensure quick-and-easy maintenance.

Features of the VX series
• Comprehensive range of technical details and options
• Quick access to the pump chamber by removing the cover
• Self-priming
• Resistant to foreign matter
• Pulsation-free pumping
The types

**Q – QuickService pumps:** On one side, dual cantilever bearings; on the other, quick-and-easy access to the pump chamber. All wetted parts can be replaced without removing the pump on-site. That makes for short downtimes.

**QD – QuickService pumps with third bearings:** In the unique QD design, an additional, third support bearing provides extra stability and extremely low shaft deflection, resulting in minimum start-up wear. This increases the service life significantly and provides full QuickService functionality.

The drive types

- Geared motor
- Cardan shaft/manual gearbox
- Hydraulic motor
- Combustion motor

The lobes

We have developed special compounds for the elastomer that surrounds the lobe core in our rotary lobe pumps. They make it possible to tailor every pump to the specific medium and guarantee extra durability. We have a range of options available for lobes in the VX series, e.g., NBR or SBR. If the focus is on high volumetric efficiency and pulsation-free running, the patented HiFlo lobes are the ideal choice. Constant pumping and more sealing lines allow high pressures and drawing of fluid from deep pits.

### SPECIFICATIONS

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VX SERIES
ROTARY LOBE PUMPS

Perfection, from technical design to service

Adjustable pump housing segments
Optimum utilization of materials for prolonged service life

Break-proof shafts
Maximum shaft diameters for very smooth running

Quality Cartridge mechanical seal
Professional sealing technology for maximum reliability
Find out more here: pumps-for-life.com

**Component-based design**
Major savings from single part replacement

**QuickService design**
Quick-and-easy access to all the medium-affected parts without dismounting 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

**HiFlo® lobes**
Pulsation-free pumping for very smooth running

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

**100% renewal of the pumping chamber**
Capacity like on the first day of use – after replacement of medium-affected parts

**Up to 37% less weight**
For greater payloads in vehicles
InjectionSystem

Only rotary lobe pumps from Vogelsang offer a way of significantly extending the service life of the lobes in your rotary lobe pump, thanks to our patented InjectionSystem. Field trials prove that it can extend pump lifetime by as much as 2.5 times.

The principle is ingeniously simple. It prevents damage to the lobe tips by disruptive matter, as the innovative geometry of the housing facilitates problem-free flow through the pump. The internal sealing of the pump is also improved. That increases not only its efficiency, but also its suction capacity.

We offer you the following equipment variants
- Injection S offers symmetrical protection for clockwise and counterclockwise rotation.
- Injection A offers asymmetrical protection for clockwise or counterclockwise rotation.

The advantages at a glance
- Significantly improved foreign matter resistance
- Increased efficiency and improved suction capacity through optimized volumetric efficiency
- Significantly extended service life – up to 2.5 times longer in field trials

WORK EASIER – SAFELY

Innovative techniques for maximum safety and long service lives with high serviceability at the same time
Quality Cartridge mechanical seal

Professional sealing technology for maximum reliability
A pump seal that can be replaced in just one single step, significantly simplifying maintenance while also lowering the risk of transmission damage? This is a reality with the Quality Cartridge mechanical seal from Vogelsang. This mechanical seal in a cartridge design is completely preassembled. It represents the highest factory-tested safety standard, runs with minimal problems and installs quickly. Thanks to its unique construction, it incorporates all seal components, thus allowing reliable replacement of all the sealing elements when the gasket is changed – including the gasket between the gearbox and the buffer chamber. The Quality Cartridge mechanical seal is also highly user-friendly. It is preassembled for quick-and-easy replacement on-site, without the need for any expensive special tools.

The advantages at a glance:
• Quick-and-easy change of seal: installation errors are prevented
• Installation takes less time than when changing conventional seals

Cartridge mechanical seal repair
We offer optional repair of the Quality Cartridge mechanical seal. Use our complete spare parts kit and the installation tool to repair the mechanical seal yourself in a very short time. With this variant, you can keep your repair costs down.
Optional extra for the VX series

Pumps with manual gearbox
Vogelsang rotary lobe pumps with a connected three-speed gearbox make it possible to achieve different delivery rates almost independently of the motor speed. The gearbox also enables you to quickly fill the tank when idling and to optimally set the spreading capacity to the desired level during travel. The pump’s gears can be shifted conveniently from the tractor cabin.

A pump for three different drive types
The Vogelsang Universal Drive System (UDS) allows the same Vogelsang VX rotary lobe pump to be operated with a number of different types of drive. This is done by combining a pump from the VX series with a special shaft and drive adapter. This means it can be operated flexibly with a Cardan shaft, gearbox or hydraulic motor, depending on current requirements and the location of use.

Monitored flow rate for precise spreading
By integrating a speed sensor, the flow rate can be precisely monitored during liquid manure spreading and the spreading quantity regulated as required on the basis of the speed measurements. Vogelsang offers this sensor in two variants:

Variant A with UDS: The speed sensor works in conjunction with the UDS. It is installed in the drive adapter and measures the speed on the adapter teeth.

Variant B without UDS: Screwed directly into the gearbox, the sensor measures the speed regardless of the drive type.
**SHREDDING TECHNOLOGY WITH FOREIGN MATTER PROTECTION**

The powerful RotaCut® for cost-effective liquid manure treatment

The more flowable and homogeneous the liquid manure and digestates are, the more effectively they can be used as organic fertilizers. The RotaCut by Vogelsang shreds all the coarse and fibrous matter in the liquid manure. In addition, it provides effective protection against foreign matter and heavy material. On a liquid manure transport vehicle, RotaCut provides reliable protection for the pump system and ensures a homogeneous and easily metered liquid manure suspension.

**The principle**

The continuously flowing medium passes first through the separator and is then fed to the cutter. Foreign objects (stones, metal parts, etc.) are separated out based on their size or weight and can be easily disposed of later via a cleaning port. Floating and suspended substances within the medium (fibers, hair, bones, wood, etc.) are transported to the cutting screen by the liquid current and shredded by rotating, self-sharpening cutting blades.

**RotaCut® advantages at a glance**

- Efficient cutting performance
- High separation effect
- Simple maintenance and repair
- Wide range of series up to 12,000 l/min. throughput
- ACC for automatic adjustment of the cutting blades

![The RotaCut principle of operation](image-url)
Functions
• Separating out foreign matter
• Cutting
• Homogenization

Constant performance, long service life
Automatic Cut Control (ACC) by Vogelsang automatically adjusts the cutting blades in the RotaCut. This keeps the necessary contact pressure between the cutting blade and the cutting screen constant at all times, and the cutting performances at a constant high level. Manual maintenance is no longer necessary. The contact pressure can also be externally adapted to suit the medium during operation. For more information on ACC, see page 30 ff.

Especially for vehicles: Vogelsang RotaCut® MXL
The RotaCut MXL is the ideal solution for special requirements in the field of vehicle construction. It cuts fibers just as reliably as it separates heavy material, and can be easily installed on a vehicle. Its large opening provides easy access for service and maintenance, and heavy material is easy to remove.

Higher yields for biogas plant operators
If substrates reach the digester well macerated and mashed, the gas yield increases significantly and the strain on the mixer is greatly reduced. Vogelsang offers energy-producing farmers a complete range of special RotaCut models for shredding, including the corresponding feeding systems.

For more, see our BIOGAS brochures or contact us directly. We would be happy to show you how you can optimize the substrate feeding process with a RotaCut.

Vogelsang uses its proprietary software to calculate the optimized geometry for every size-reduction ratio. For you this means: the best geometry at all times for smooth running, with minimal wear. The cutting screens are produced from wear-resistant special steel and are reversible.

SPECIFICATIONS

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<th>Type</th>
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<th>RC3000</th>
<th>RC5000</th>
<th>RC10000</th>
<th>RCX-48</th>
<th>RCX-58</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum flow rate</td>
<td>m³/h</td>
<td>90</td>
<td>180</td>
<td>300</td>
<td>600</td>
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</tr>
<tr>
<td>Geared motor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optional motor output</td>
<td>kW</td>
<td>1.1 – 2.2</td>
<td>1.5 – 4</td>
<td>1.5 – 7.5</td>
<td>2.2 – 7.5</td>
<td>5.5 – 11</td>
</tr>
<tr>
<td>Hydraulic motor</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Required oil pressure</td>
<td>bar</td>
<td>50 – 70</td>
<td>60 – 80</td>
<td>70 – 100</td>
<td>180 – 230</td>
<td>75</td>
</tr>
<tr>
<td>Required oil quantity</td>
<td>l/m</td>
<td>40</td>
<td>45</td>
<td>60</td>
<td>100</td>
<td>75</td>
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<td>Model type overview</td>
<td></td>
<td>Inline</td>
<td>Inline</td>
<td>Inline</td>
<td>Inline</td>
<td>RCX</td>
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<tr>
<td></td>
<td></td>
<td>–</td>
<td>Zyklon</td>
<td>Zyklon</td>
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<td>–</td>
<td>MXL</td>
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<td>–</td>
<td>Compact</td>
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<td>–</td>
<td>–</td>
<td>Compact XL</td>
<td>Compact XL</td>
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</tr>
<tr>
<td>Cutting screen with available free passage</td>
<td>mm</td>
<td>10/15/20</td>
<td>8/10/12/15/20/28</td>
<td>4/8/10/12/16/20/25/34/38</td>
<td>4/8/10/12/16/20/25/34/38</td>
<td>8/12/16/25/34</td>
</tr>
</tbody>
</table>
ACC, automatic cutting pressure control, ensures that this pressure remains even at all times so you never have to worry about it.
ACC® – Automatic Cut Control
The RotaCut is a macerator that uses direct contact between the cutting blades and the cutting screen. It reliably macerates long-fibered materials such as straw or hay in media.

The automatic control unit reduces wear and tear
ACC adjusts the contact pressure between the cutting blades and cutting screen to a level as high as is necessary and as low as is possible. This considerably prolongs the service life of the cutting blades in an automated fashion, as opposed to a manual blade adjustment. As a result, ACC is a reliable basis for increased efficiency and ensures consistent cutting performance for the life cycle of the wear parts.

ACC® advantages at a glance
• No manual cutting blade adjustment required; fully automatic, uninterrupted operation
• Contact pressure can be readily adjusted to the medium without interrupting operation
• Low operating costs thanks to minimum wear and low current consumption
• Optimal results due to consistently high cutting performance and constant size-reduction ratio
FILLING RAPIDLY AND SAFELY

Filling technologies for optimal liquid manure logistics
PowerFill
PowerFill

PowerFill makes it possible to fill vacuum tanks up to 30 percent faster. Additionally, the liquid manure is homogenized during the filling procedure, making it easier to spread more precisely. PowerFill is suitable for any vacuum tank and easy to retrofit via a 6 or 8 inch flange connection. The required hydraulic capacity is a minimum of 50 l/min. at 160 bar and a maximum of 70 l/min. at 175 bar.

FillMaster

FillMaster S
The stationary FillMaster S enables convenient and quick filling of tankers from containers or digesters. There is no need for complex, time-consuming coupling and uncoupling of hoses. The filling connector with double telescope can be lowered manually or electrically (optional). That way, any tank can be filled quickly via the dome. FillMaster S can be equipped with a convenient wireless remote control or a wired remote control, on request. Depending on the application, capacities of up to 11,000 l/min. can be achieved. The system can be equipped with a rotary lobe pump from the VX series or a PowerFill. Various drive configuration are available.

FillMaster M
The mobile FillMaster M with a three-point fixture can be transported by a tractor. Its centerpiece is a rotary lobe pump from the VX series, driven by the Cardan shaft. Two options are available for filling tankers: via hose and connecting piece with a Perrot coupling or via an integrated T-System column. A three-way cock lets you change the filling method. The positioning of the boom is especially user-friendly thanks to the hydraulic support. The integrated stone catcher reliably separates out substantial foreign matter. The FillMaster M is equipped with hose brackets so that everything can be stowed away safely during transport and quickly connected on-site.

Vogelsang VX pumps for the FillMaster
The following rotary lobe pumps from the VX series are available for the FillMaster S and FillMaster M: 186-260Q, 186-390Q and 186-520QD.

See page 18 for the capacity specifications.
WHEN IT COMES TO SERVICE, WE LEAVE NOTHING TO CHANCE

Comprehensive services for smooth operation and a long lifetime

Support and supply from A to Z
Because we are aware that close customer proximity is essential for our mutual success, we design our services to best meet your needs. In Germany and in countries where we have subsidiaries, Vogelsang service centers and contractual partners generate an active dialog with our customers and provide reliable support.

This means you always get the precise support you need in every phase of our partnership. Our highly qualified staff make it possible – experts such as consultants and technicians who know your Vogelsang machines inside and out.

Since its establishment in 1929, Vogelsang has become an internationally recognized mechanical engineering company with numerous branches, sales centers and subsidiaries.
We think ahead
Thinking ahead in your best interest begins with our extensive and detailed product documentation. Spare parts are available within a short time due to our high degree of vertical integration in production. In addition, you will always find an authorized service partner in your area who can help with repairs and wear part replacement. The Vogelsang ServicePack completes the offer. Whether you need start-up, on-site training, training at the Vogelsang facility, or full service support with a maintenance contract and a wear parts service package – we offer a support program tailored specifically to your needs.
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