



POWERFUL AND COMPACT

# Rotary lobe pumps

For transport and logistics applications



# Compact, maintenance friendly and reliable

## The powerful loading and unloading rotary lobe pump



Innovative design for safe pumping in transport applications

Pumps for tanker applications need to satisfy several stringent requirements related to design and operation. Vogelsang rotary lobe pumps are designed to provide low-cost, trouble-free and maintenance-friendly pumping. They are ideally suited for aggressive chemicals and viscous media, including media with high levels of solids or media that react sensitively to shear forces.

Thanks to their compact construction, high capacity, maintenance-friendly and robust dry-running characteristics, Vogelsang pumps are ideal for tanker applications. The reversible direction of flow enables the vehicle to be loaded and unloaded with a single pump. The Vogelsang pump can be driven by a hydraulic motor, which is powered by the vehicle. Capacity: 3 to more than 1,400 m<sup>3</sup>/h, pressures up to 16 bar.

### Typical applications for Vogelsang technology

Thanks to the advanced technology, Vogelsang rotary lobe pumps provide trouble-free pumping for a wide range of media and applications in the food, agricultural, chemical and cosmetic industries, the disposal sector, and even the oil and gas sectors.

### Food industry

- Pumping fish oil or vegetable oils, e.g. olive, palm
- Pumping must, lees or pomace in the wine industry
- Pumping syrup or molasses in the sugar industry
- Pumping blood from abattoirs

### Recycling industry

- Pumping used mineral oils
- Pumping used vegetable oils to produce biodiesel
- Draining oil tanks

### Petrochemical industry

- Pumping conventional fuels such as petrol, diesel
- Pumping hydrocarbons
- Draining tanks in the petrochemical industry
- Pumping waste products in the oil and gas industry
- Bentonite

### Pharma and cosmetic industries

- Pumping glycerin
- Pumping liquid soap
- Pumping other products with high viscosity, aggressive chemicals or media with high levels of solids

### Agricultural industry

- Pumping fertilizers
- Pumping liquid manure

### Chemical industry

- Pumping caolin or bentonite in the ceramic industry
- Pumping media with diverse acids or bases
- Pumping antifreeze or brake fluid
- Pumping paints or raw materials



# 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 from the VX and IQ series.

## Unique lobes



### Innovations that pay off

#### The benefits of expertise

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

#### InjectionSystem

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%.

#### Highly versatile

There are virtually no limits when it comes to the application of a Vogelsang pump; for example, you can pump acids or bases, viscous media, as well as media that react sensitively to shear forces or that have a high level of solids. Vogelsang rotary lobe pumps can pump anything that flows and more.

#### Mobile and flexible

As a result of their superior performance, compact construction and self-priming capability, Vogelsang pumps lend themselves to the field of vehicle manufacturing. Mobile pump units from Vogelsang represent the epitome of on-site safety and independence.

#### Compact and space saving

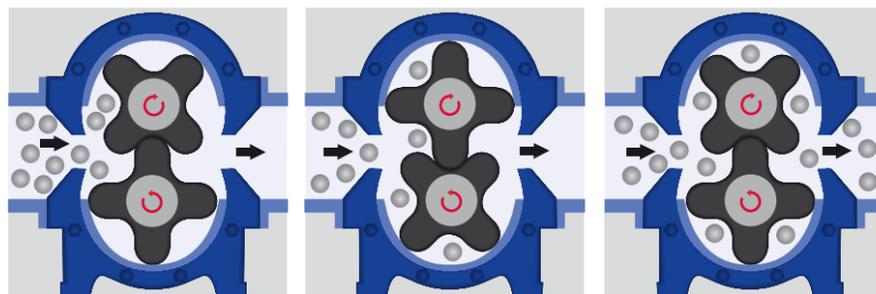
Vogelsang pumps can be integrated into any system. The service-friendly design provides a variety of application possibilities and enables installation in the tightest spaces. The universal connection options for all pumps in the IQ series make it possible to adapt them to a wide range of installation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

#### Quick and low-cost maintenance

The QuickService design of Vogelsang pumps enables fast and low-cost maintenance that can be performed on site.

#### The principle

The principle is ingeniously simple: the rotating lobe seals the medium on the suction side in a chamber between the housing and lobe. It pumps it 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.



### The right lobe for every application

#### Optimized for the application: 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

- NBR:** wastewater, greases, salt water
- NBR white:** food
- EPDM-SL:** water, acids, lyes
- EPDM-AL:** drinking water
- EPDM white:** food
- CSM:** oil, acids, lyes
- FPM:** chemicals, acids, lyes, salt water
- PUR:** fine-grained abrasive media
- PU:** abrasive media

#### Solid material lobes

- Stainless steel:** aggressive media, food, higher temperatures
- Steel, nitrided:** abrasive media, higher temperatures

## LifeGuard

### The concept for maximum lifetime

A pump's service life is determined by specific factors. We know about these factors and have developed, in the form of LifeGuard, a concept for maximizing the pump's lifetime.

The concept includes factors that make Vogelsang pumps exceptionally productive and cost-effective. Find out more below. For further details, visit our website, [vogelsang.info](http://vogelsang.info).

#### LifeGuard factors

- Maximum shaft diameter
- Shafts without cranks
- QuickService bearing cover (option)
- Wear-resistant materials and coatings
- Wear plate system made of hardened steel
- InjectionSystem
- Multi-wing lobes
- V-interlocked lobes
- Lobe material
- HiFlo® technology
- Quality Cartridge mechanical seal
- Marathon style multi-stage pumps



A reliable pumping concept with strong advantages

# Vogelsang VX series

## The complete range for varied applications and simple servicing

### 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 installation options. All the models have two things in common: a compact design and easy maintenance.

With five series and up to eight sizes per series, a VX rotary lobe pump can be adapted to almost any delivery rate and pressure range.

Series	Max. pressure range	Max. delivery rate	Max. speed
VX100	10 bar	50 m <sup>3</sup> /h	1,000 min <sup>-1</sup>
VX136	16 bar	364 m <sup>3</sup> /h	800 min <sup>-1</sup>
VX186	16 bar	1,025 m <sup>3</sup> /h	600 min <sup>-1</sup>
VX215	8 bar	1,417 m <sup>3</sup> /h	540 min <sup>-1</sup>
VX230	12 bar	1,234 m <sup>3</sup> /h	540 min <sup>-1</sup>

### Advantages of the VX series at a glance

- 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

### Break-proof shafts

Vogelsang pumps have shafts with a large cross section and without cranks or recesses that can weaken them. This minimizes shaft deflection and pressure-related wear. We also provide a warranty against shaft breakage\* – that's a promise!

\* Under normal conditions of use in accordance with our terms of guarantee

### Bearing

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

### Gearbox housing

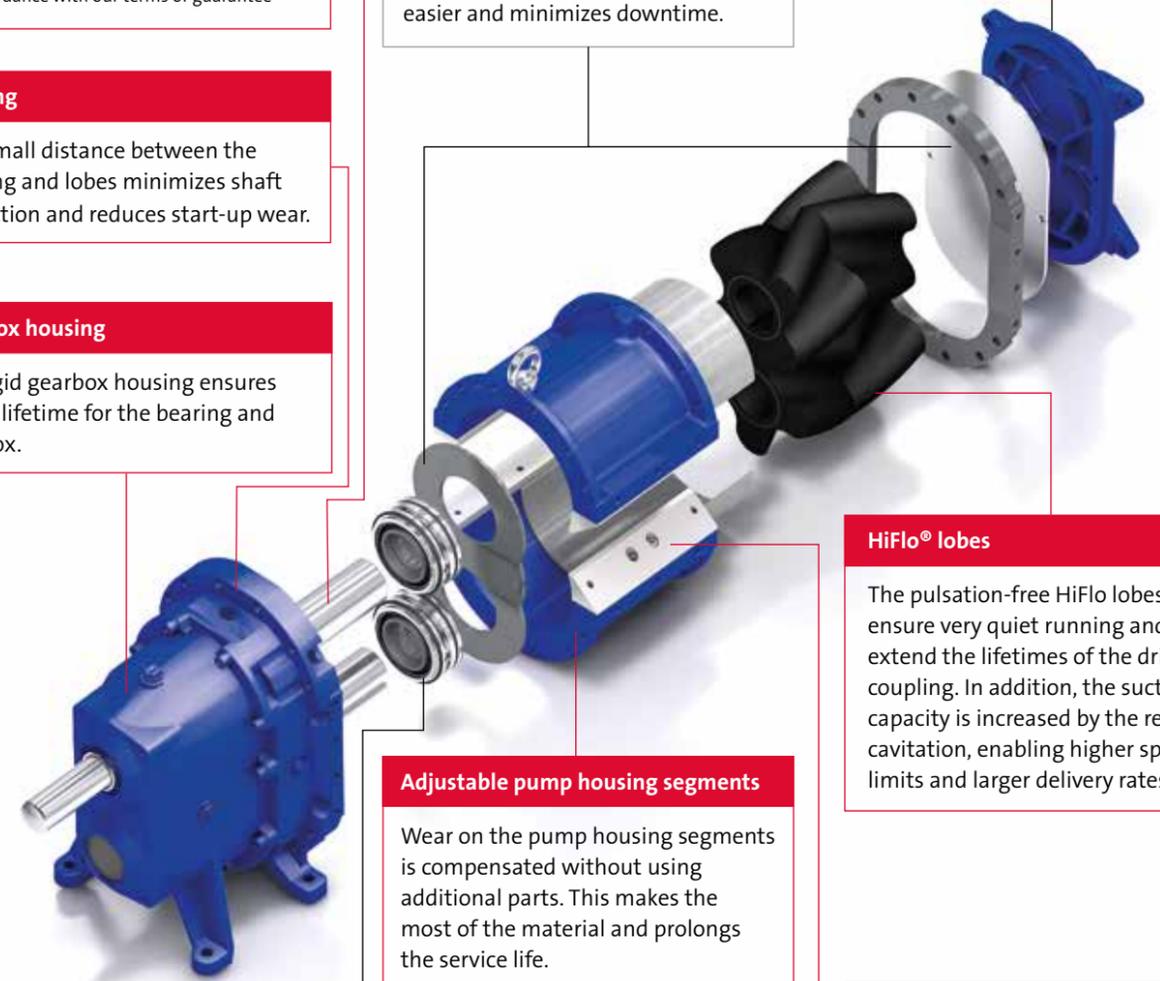
The rigid gearbox housing ensures a long lifetime for the bearing and gearbox.

### Wear plates

Axial and radial wear plates lengthen the lifetime. They can be replaced without dismantling the pump from the tanker. This makes maintenance easier and minimizes downtime.

### QuickService design

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



### HiFlo® lobes

The pulsation-free HiFlo lobes ensure very quiet running and extend the lifetimes of the drive and coupling. In addition, the suction capacity is increased by the reduced cavitation, enabling higher speed limits and larger delivery rates.

### Adjustable pump housing segments

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

### Quality Cartridge mechanical seal

Patented cartridge seal technology makes changing easy and reliable. The cartridge mechanical seal makes it possible to replace all seal components. This protects against sudden failures of the gasket and potentially fatal damage.

### 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.

Final consideration for using the VX pumps: all the wear parts in the pump chamber can be changed on-site without dismantling the unit from the tanker. After the lobes, wear plates and radial wear plates have been replaced, the pump returns to its full capacity.

# Vogelsang IQ series



More cost-effective thanks to reduced maintenance and service

The most modern pump technology: compact dimensions, flexible installation options, quicker and more cost-effective servicing 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 to the tanker.

### IQ series – easy to integrate

The connecting parts used for the variable series allow the majority of installation circumstances to be met. 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 special connections.

### IQ series – for low operating costs

The number of central spare parts has been reduced by 50% in comparison to the conventional design. The costs for replacement parts are reduced accordingly. The concept of the IQ series allows further cost savings as 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 m<sup>3</sup>/h at pressures of up to max. 8 bar. The IQ series is perfectly suited to demanding applications in the transport sector.

### Advantages of the IQ series at a glance

- Quicker, optimum access to the pumping elements
- Pump always remains firmly screwed into the tanker during service and maintenance work
- Integrated dry-running protection
- Self-priming, good suction capacity
- Easy and flexible integration

Series	Max. pressure range	Max. delivery rate	Max. speed
IQ112-81Q	8 bar	55 m <sup>3</sup> /h	900 min <sup>-1</sup>
IQ112-114Q	5 bar	77 m <sup>3</sup> /h	900 min <sup>-1</sup>

### 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.

### Wear plates

The two wear plates can be replaced without dismantling the pump from the tanker. This makes servicing easy and minimizes downtime.

### Pump chamber

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

### 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%.

### Quality Cartridge mechanical seal

Patented cartridge seal technology makes changing easy and reliable. The cartridge mechanical seal makes it possible to replace all seal components. This protects against sudden failures of the gasket and potentially fatal damage.

### Innovative design

The innovative design of the IQ series makes it possible to leave the pump firmly screwed to the tanker 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.

### 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.

**Final consideration for using the IQ pump 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 a lot of time and money, each and every day.**



# 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 operation concept for all pumps in the VX and IQ series. It ensures significantly reduced labor for the end user, considerably fewer spare parts and lower operating costs.

Maximum availability thanks to minimum servicing 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 dismount them.

**3. Remove the wear plates:** after you remove the lobes, simply loosen two screws to 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 pumps in the VX and IQ series 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



## Specifications

Type	Marathon	Displacement l	Max. pressure			Max. capacity*		Max. speed min <sup>-1</sup>	Max. shaft deflection	
			Q bar	QD bar	Marathon bar	m <sup>3</sup> /h	l/min		Q version mm/bar	QD version mm/bar
VX100 series										
45		0.29	10			17	290	1000	0.01	
64		0.42	9			25	420	1000	0.02	
90		0.59	7			35	590	1000	0.04	
128		0.84	4			50	840	1000	0.08	
VX136 series										
70	140 (70/70)	1.27	10		16	61	1016	800	0.01	0.002
105	210 (105/105)	1.90	10	12	16	91	1520	800	0.03	0.004
140	280 (140/140)	2.53	8	12	14	121	2024	800	0.05	0.007
210	420 (210/210)	3.80	5	10	12	182	3040	800	0.16	0.016
280		5.06		8		243	4048	800		0.031
420		7.59		6		364	6072	800		0.090
VX186 series										
92	184 (92/92)	3.56	10		16	128	2136	600	0.01	
130	260 (130/130)	5.03	10	12	16	181	3018	600	0.02	0.003
184	368 (184/184)	7.12	8	12	14	256	4272	600	0.05	0.008
260	520 (260/260)	10.06	5	10	12	362	6036	600	0.12	0.012
368		14.24	3	8		513	8544	600	0.33	0.028
390		15.09	3	7		543	9054	600	0.40	0.028
520		20.12		6		724	12072	600		0.069
736		28.48		3		1025	17088	600		0.191
VX215 series										
226		15.47	5	8		501	8354	540	0.10	0.010
320		21.88	2.5	7		708	11815	540	0.29	0.026
452		30.94		5		1002	16708	540		0.063
640		43.76		3		1417	23630	540		0.161
VX230 series										
226		13.45	8	12		436	7263	540	0.05	0.006
320		19.04	5	10		617	10282	540	0.13	0.012
452		26.90		10		872	14526	540		0.029
640		38.08		6		1234	20563	540		0.073
IQ112 series										
81		1.02	8			55	918	900	0.04	
114		1.44	5			77	1296	900	0.08	

\* 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 sizing software.



## 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.

**vogelsang.info**

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