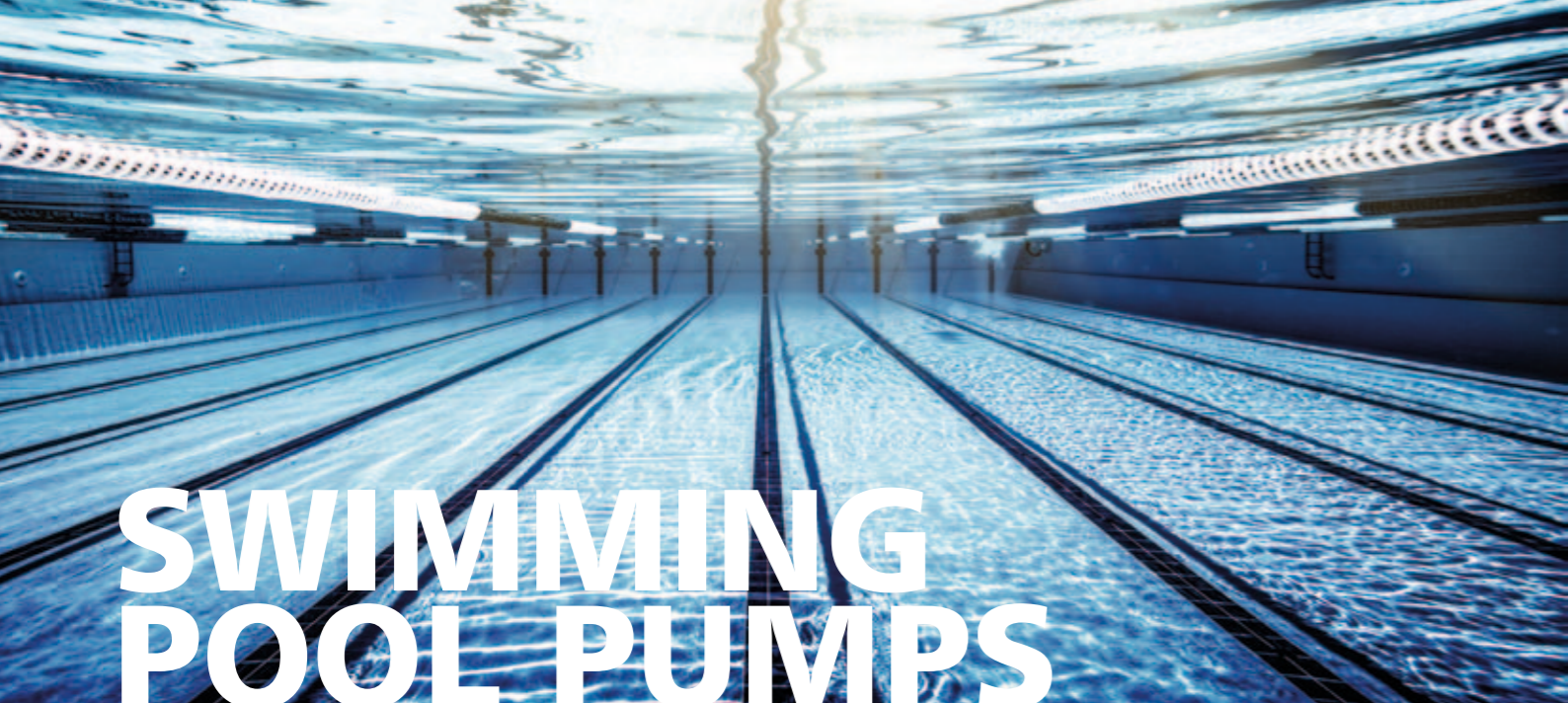


# SWIMMING POOL PUMPS

Herborner Pumpen –  
the No. 1 solution for  
swimming pool pumps.



# SWIMMING POOL PUMPS

Visitors of swimming pools, whether public pools, hotel pools, private pools or natural pools, are looking for leisure, recovery and relaxation. In general, visitors hardly notice anything about the complex processes and pumps applied for the circulation of swimming pool water. Without pump technology, this leisure and relaxation would not be possible. It ensures high water quality and is decisive for the feel-good factor. Water treatment may be the main application of pumps in swimming pools, however, there are many more applications in this field, where various pumps are applied. Examples include pumps for diverse water attractions or sewage treatment.

Most of the pumps used in swimming pool systems are centrifugal pumps with an electric motor drive. The selection of individual pump components defines the number of options and the complexity of

units dedicated to swimming pool applications. The equipment details are a decisive factor for the service life of pumps. If pumps are selected according to their functional safety and low life cycle costs and equipped with state-of-the-art motor technology, system operators can expect low energy consumption and a long service life.

Another decisive factor is the set-up of the system to prevent any problems during operation. Aside from any potential problems in connection with centrifugal pumps, including cavitation or corrosion, vibrations and noise caused by incorrect system set-up or unfavourable operation of the pump also need to be minimised.



**OUR TECHNICAL HANDBOOK**  
Our technical handbook provides even more information on swimming pool pumps: **Swimming Pool Pumps**, fields of application, selection, set-up, energy efficiency

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# THEME PARKS

Water is the liveliest of the four elements. Its diverse shapes and flexibility have been fascinating us for thousands of years.

Besides pump technology for swimming pool water treatment, we are committed to providing the possibility of experiencing the characteristics of water. Thanks to our pump technology, wild water channels, waterfalls, whirlpools and water slides have become a firm part of modern water parks. Our pumps are an integral and yet individual part of technology.



**HERBORNER.X**  
(X-PM / X-C)

The herborner.X circulation pump for swimming pool water, with the unique 100% coating and integrated hair and fibre filter. Up to 500  $\mu\text{m}$  coating provides an extremely smooth surface. Hydraulic efficiency is boosted by about 10% depending on the operating point of the pump, offering energy savings over years. The pumps may be alternatively equipped with a permanent magnet (PM) or heat exchanger motor (C).



**HERBORNER.F**  
(F-PM / F-C)

The cutting edge generation of coated herborner.F block pumps with their unique 100% coating is suitable for all applications where the medium must not be contaminated by corrosion products. Up to 500  $\mu\text{m}$  coating provides an extremely smooth surface boosting the hydraulic efficiency of the pump by about 10% and offering energy savings over years. The pumps may be alternatively equipped with a permanent magnet (PM) or heat exchanger motor (C).



**HERBORNER.D**  
(D-PM / D-C)

The coated herborner.D in-line block pump is suitable for all applications where the medium must not be contaminated by corrosion products, and direct in-line installation is required. Up to 500  $\mu\text{m}$  coating provides an extremely smooth surface. Hydraulic efficiency is boosted by about 10%, offering energy savings over years. The pumps may be alternatively equipped with a permanent magnet (PM) or heat exchanger motor (C).



**UNIBAD**  
(PM / XC)

The market leader and trendsetter in the field of swimming pool water circulation pumps with integrated hair and fibre filter. Pumps of the UNIBAD series offer compact design, high efficiency and long service life with low maintenance. The pumps may be alternatively equipped with a permanent magnet (PM) or heat exchanger motor (C).



**UNIBLOCK-GF**  
(GF-PM / GF-C)

The water movement specialist. Whether in swimming pools, thermal water, water works or industrial applications, this pump is the perfect solution for all applications requiring high reliability, efficiency and flexibility. The pumps may be alternatively equipped with a permanent magnet (PM) or heat exchanger motor (C).



**UNIBLOCK-D**

This in-line block pump offers all benefits of the UNIBLOCK series for direct in-line installation in diverse applications.

## MOTOR TECHNOLOGY AT A GLANCE

### PERMANENT MAGNET MOTOR (PM)

- More power thanks to higher efficiency
- Reduced operating costs from energy savings
- Reduced CO<sub>2</sub> emissions thanks to less power consumption
- Continuous compliance with Super Premium Efficiency (IE4) motor efficiencies

### HEAT EXCHANGER MOTOR (C)

- Medium-cooled
- Return of 95% waste heat to the medium
- Suitable for systems with long pump service times and high demands on noise reduction
- Also available as a flood-proof model

### VARIABLE SPEED DRIVE (FU)

- High potential energy savings thanks to speed adjustment, e.g. reduced operation at night
- Clearly reduced wear thanks to speed control
- Smooth and step-less starting and stopping of motors
- No momentary or load impacts – protection of the entire drive train including motor, pump, tubing and seals
- Reduced repair and maintenance costs thanks to longer operating intervals





### UNIBAD-72

The self-priming UNIBAD-72 pump is the perfect selection for any difficult operating conditions in private or hotel pools.



### HERBORNER.F-L

The pump for special applications in the field of attractions or wherever bearing block pumps with a standard motor may be applied. In line with the modular system, herborner.F-L pumps also feature 100% coating with model-dependent corrosion resistance and maximum efficiency.



### HERBORNER.CMP

The herborner.CMP is designed for control and monitoring of up to 6 pumps in single and parallel operation. The system reduces maintenance to a minimum and considerably supports reduction of the pump energy consumption. An integrated warning and alarm system prevents unscheduled shut-downs. This enables a reduction in pump life cycle costs.



### WATERBLUE-H

WATERblue-H with its integrated hair and fibre filter is particularly suited to applications in private or hotel pools. Its unique hybrid design is the perfect solution for complex and flexible applications and offers quiet operation.



### WATERBLUE-K

WATERblue-K is a plastic pump with an integrated hair and fibre filter for application in private and small hotel pools. Its innovative filter technology considerably supports filter cleaning. Variable tubing connection options offer high flexibility.



### WATER BLAST SYSTEM

The Water Blast System was developed to save time and money. Overpressure is generated in the hair and fibre filter to force the water from the swimming pool water pump into the water tank. The system is controlled either by means of the central swimming pool control system, the herborner.CMP control and monitoring panel system. This saves time that can be used for other crucial operations. Aside from this, energetically treated swimming pool water is saved, which would otherwise be wasted.

# ATTRACTIONS

We offer pump solutions for any kind of application: Theme parks, hotel pools, natural pools or aqua parks.



**HERBORNER.F**  
(F-PM / F-C)

The cutting edge generation of coated herborner.F block pumps with their unique 100% coating is suitable for all applications where the medium must not be contaminated by corrosion products. Up to 500  $\mu\text{m}$  coating provides an extremely smooth surface boosting the hydraulic efficiency of the pump by about 10% and offering energy savings over years. The pumps may be alternatively equipped with a permanent magnet (PM) or heat exchanger motor (C).



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**HERBORNER.F-L**

The pump for special applications in the field of attractions or wherever bearing block pumps with a standard motor may be applied. In line with the modular system, herborner.F-L pumps also feature 100% coating with model-dependent corrosion resistance and maximum efficiency.

# OTHER APPLICATIONS



**UNIBLOCK-P**

This propeller block pump is the perfect solution for applications requiring high flow rates and low delivery heads with low energy consumption.



**UNIVERS-AYR**

This space- and energy-saving block pump for high flow rates is suitable for different (water) applications.



**UNIVERS-TYR**

UNIVERS-TYR submersible pumps offer optimum adjustment to system conditions and environmental requirements based on modular variations. The hydraulic pump system enables smooth pumping of high flow rates with low delivery heads for perfect application in attractions and natural pools.



**UNIVERS-T**

Submersible sewage pumps type UNIVERS-T are particularly suitable for untreated sewage and waste water applications. Thanks to maximum reliability, these pumps support faultless operation of swimming pool pump systems or waste water pump stations.



**UNIVERS-A**

The sewage block pump series UNIVERS-A enables numerous pumping applications for sewage and waste water based on various hydraulic pump systems. This flexibility is also reflected in the variety in diverse motor concepts. This enables adjustment of the overall efficiency of the unit to meet the individual requirements of customers.



**UNIPUMP**

UNIPUMP sewage water block pumps are compact continuous running pumps for sewage and waste water applications. Due to their individual design according to customer requirements in connection with high stability, these pumps are an important solution for challenging waste water applications.

# LIFE CYCLE COSTS

COST CALCULATION OVER THE COURSE OF OPERATION.

To determine the overall economic efficiency of a product or system an overall analysis, which takes into account all occurring costs during the entire life cycle of a system, is required. This is referred to as Life Cycle Costs (LCC). An LCC calculation is particularly recommended for pumps applied in swimming pools as these pumps, with an annual operating time of more than 8,000 hours (e.g. swimming water circulation pumps) have a high impact on other cost factors (e.g. energy costs). Observation of only the initial costs does not provide sufficient long-term information.

The LCC can be calculated by means of a simple formula.

$$LCC = C_{ic} + C_{in} + C_e + C_o + C_m + C_s + C_{env} + C_d$$

- $C_{ic}$  Initial costs
- $C_{in}$  Installation/commissioning costs
- $C_e$  Energy costs
- $C_o$  Operating costs
- $C_m$  Maintenance and repair costs
- $C_s$  Production downtime costs
- $C_{env}$  Environmental protection costs
- $C_d$  Decommissioning costs

Here, you can access a computer-aided program for easy calculation of the LCC for your pumps, available in German and English language.



German



English

Example comparison of two pumps:

## LIFE CYCLE COSTS | CALCULATOR FOR PUMPS

Life Cycle Costs (LCC) calculation for your pump units.

SUMMARY	PUMP A	PUMP B
Initial costs (C <sub>ic</sub> )	2,500.00 €	3,000.00 €
Installation costs (C <sub>in</sub> )	1,000.00 €	1,000.00 €
Subtotal of the initial one-time costs:	3,500.00 €	4,000.00 €
Energy costs (C <sub>e</sub> )	1,500.00 €	800.00 €
Operating costs (C <sub>o</sub> )	1,800.00 €	1,800.00 €
Maintenance costs (C <sub>m</sub> )	2,700.00 €	2,700.00 €
Production downtime costs (C <sub>s</sub> )	2,300.00 €	2,300.00 €
Environmental protection costs (C <sub>env</sub> )	80.00 €	80.00 €
Subtotal of annual costs:	8,380.00 €	7,680.00 €
Accumulated costs during an operating time of 10 years:	74,881.74 €	68,626.70 €
Decommissioning costs (C <sub>d</sub> )	550.00 €	550.00 €
Required provisions for shut down:	446.79 €	446.79 €
<b>LCC=Life Cycle Costs for 10 years of operation:</b>	<b>78,828.53 €</b>	<b>73,073.49 €</b>

### I AM PLANNING WITH:

- Installation costs: 75 €/h
- Operating costs: 30 €/h
- Electricity rate: 8 cents/kWh
- 10 years of operation
- 3.5% interest rate
- 1.4% inflation

WITH PUMP B, I SAVE

**5,755.04 €**

IN COMPARISON  
WITH PUMP A

# INNOVATION

Being innovative does not mean using trends but setting trends. In its long years of company history, Herborner Pumpentechnik has always been a pioneer in new and further development of pump technologies. The creativity of our in-house development department consistently leads to new results which support the service life, efficiency and the high practical value of our products.

# QUALITY

Short-sighted considerations in quality lead to extra costs. Taking into consideration the attributes of service life and reliability over numerous decades, you will come to the conclusion that Herborner solutions for swimming pools are real bargains. We think of tomorrow already today.

By the way, thanks to easy maintenance, even service personnel love our high-quality pumps.



herborner.X





## SPECIAL SOLUTIONS

**INDIVIDUAL SOLUTIONS FOR SPECIAL PUMPS  
ARE PART OF OUR SERVICE OFFER.**

Decades of experience in development and our in-house foundry are the basis for project-specific flexibility. This technological precondition for continuous innovation offers our customers the clear benefit of optimised special solutions for any individual project.

### **SPECIAL MODELS**

- Deviating voltage and/or power frequencies
- Other insulation classes
- Increased ambient temperature
- Increased protection class
- Increased protection against tropical and humid environments
- Special materials
- Special painting for uncoated components
- Customer-specific solutions

## CONSULTING & SERVICE

**AT YOUR SERVICE – COMPETENT AND PERSONAL.**

In the last decades, our company has gained global recognition and conviction among customers throughout the world.

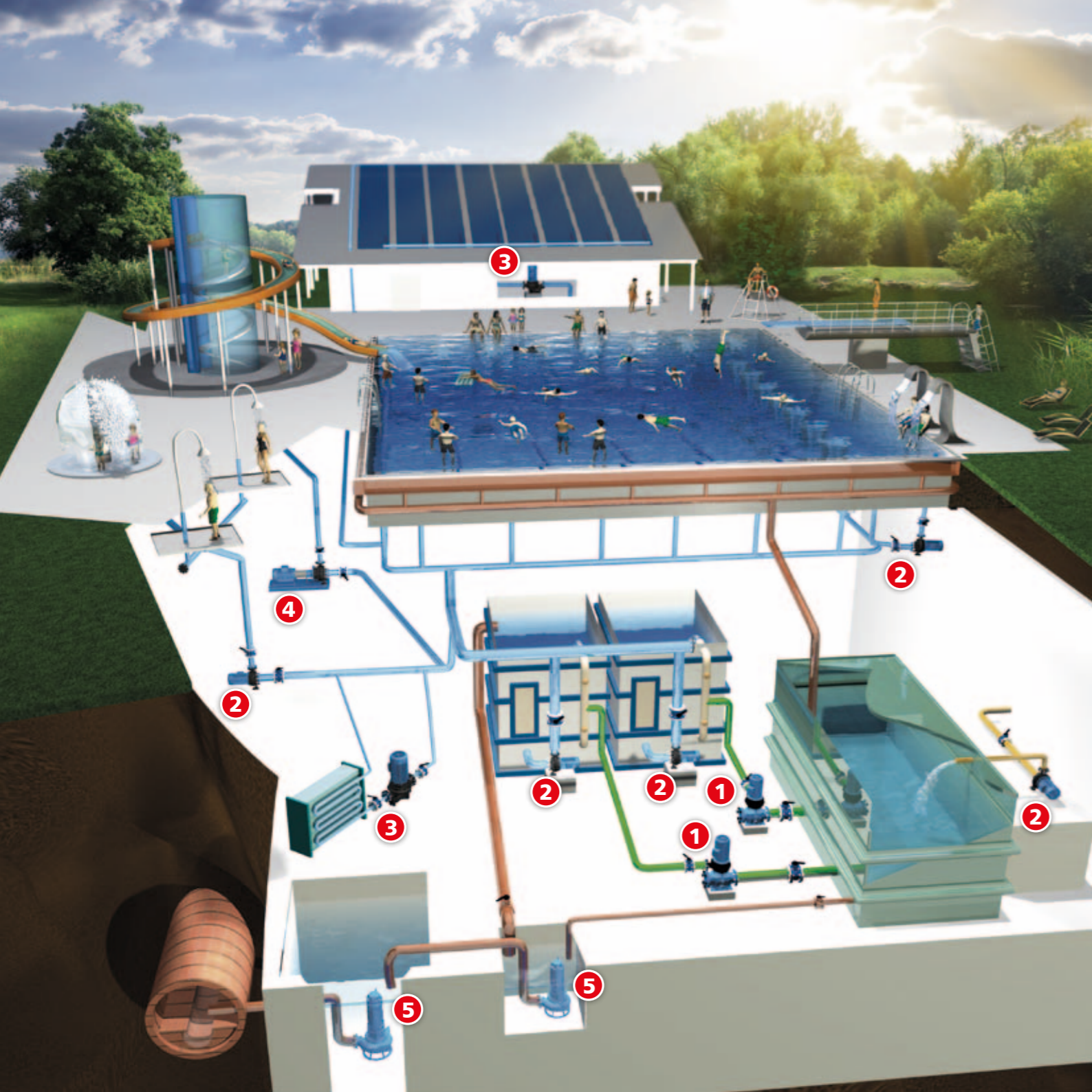
Our highly competent customer service representatives support you with expertise and technical competence and offer individual and future-orientated solutions according to your requirements. We offer global sales and service.

### **CONSULTING & SALES**

[sales@herborner-pumpen.de](mailto:sales@herborner-pumpen.de)

### **SERVICE & MAINTENANCE**

[service@herborner-pumpen.de](mailto:service@herborner-pumpen.de)



# AVAILABLE PUMPS



**1 herborner.X / UNIBAD:** to pump water from the collection tank to the filter system.

Recommendation: Application of permanent magnet motors (PM) and/or heat exchanger motors (c) as well as variable speed drives for maximum energy efficiency.



**2 herborner.F / UNIBLOCK-GF:** to pump clean water from the filter system to the swimming pool, showers and attractions.

Alternative:  
herborner.F-L / herborner.F-PM / UNIBLOCK-GF-PM



**3 herborner.D / UNIBLOCK-D:** booster pumps for heat exchangers or solar installations.

Alternative:  
herborner.F / herborner.F-PM / UNIBLOCK-GF / UNIBLOCK-GF-PM



**4 herborner.F-L:** to pump the water to the slide or other attractions.

Alternative:  
herborner.F / herborner.F-PM / UNIBLOCK-GF / UNIBLOCK-GF-PM



**5 UNIVERS-T / drain pumps:** to pump water from the collection tank to the filter system as well as any waste water into the sewage system.

Alternative:  
UNIVERS-A / UNIPUMP as dry installed waste water variant

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