



**PUMP TECHNICAL  
SERVICES LIMITED**



**THE SUBMERSIBLE PUMP SPECIALISTS**

MANUFACTURING | SALES | PROJECT DESIGN | INSTALLATION | MAINTENANCE AND REPAIRS

# OXYPERL

EN Instruction Manual

You have purchased a product made by Pentair Jung Pumpen and with it, therefore, also excellent quality and service. Secure this service by carrying out the installation works in accordance with the instructions, so that our product can perform its task to your complete satisfaction. Please remember that damage caused by incorrect installation or handling will adversely affect the guarantee.

This appliance can be used by children aged 8 years or over and by persons with limited physical, sensory or intellectual capabilities, or with limited experience and knowledge, provided that they are supervised or have been instructed in the safe use of the appliance and are aware of the dangers involved. Children must not be allowed to play with the appliance. Cleaning and user maintenance must not be carried out by children unless they are supervised.

#### Damage prevention in case of failure

Like any other electrical device, this product may fail due to a lack of mains voltage or a technical defect.

If damage (including consequential damage) can occur as a result of product failure, the following precautions can be taken at your discretion:

- Installation of a water level dependent (under circumstances, mains-independent) alarm system, so that the alarm can be heard before damage occurs.
- Inspection of the collecting tank/chamber for tightness up to the top edge before – or at the latest, during – installation or operation of the product.
- Installation of backflow protection for drainage units that can be damaged by wastewater leakage upon product failure.
- Installation of a further product that can compensate in case of failure of the other product (e.g. duplex unit).
- Installation of an emergency power generator.

As these precautions serve to prevent or minimise consequential damage upon product failure, they are to be strictly observed as the manufacturer's guideline – in line with the standard DIN EN specifications as state of the art – when using the product (Higher Regional Court Frankfurt/Main, Ref.: 2 U 205/11, 06/15/2012).

## SAFETY INSTRUCTIONS

This instruction manual contains essential information that must be observed during installation, operation and servicing. It is therefore important that the installer and the responsible technician/operator read this instruction manual before the equipment is installed and put into operation. The manual must always be available at the location where the pump or the plant is installed.

Failure to observe the safety instructions can lead to the loss of all indemnity.

In this instruction manual, safety information is distinctly labelled with particular symbols. Disregarding this information can be dangerous.



General danger to people



Warning of electrical voltage

**NOTICE!** Danger to equipment and operation

#### Qualification and training of personnel

All personnel involved with the operation, servicing, inspection and installation of the equipment must be suitably qualified for this work and must have studied the instruction manual in depth to ensure that they are sufficiently conversant with its contents. The supervision, competence and areas of responsibility of the personnel must be precisely regulated by the operator. If the personnel do not have the necessary skills, they must be instructed and trained accordingly.

#### Safety-conscious working

The safety instructions in this instruction manual, the existing national regulations regarding accident prevention, and any internal working, operating and safety regulations must be adhered to.

#### Safety instructions for the operator/user

All legal regulations, local directives and safety regulations must be adhered to.

The possibility of danger due to electrical energy must be prevented.

Leakages of dangerous (e.g. explosive, toxic, hot) substances must be discharged such that no danger to people or the environment occurs. Legal regulations must be observed.

#### Safety instructions for installation, inspection and maintenance works

As a basic principle, works may only be carried out to the equipment when it is shut down. Pumps or plant that convey harmful substances must be decontaminated.

All safety and protection components must be re-fitted and/or made operational immediately after the works have been completed. Their effectiveness must be checked before restarting, taking into account the current regulations and stipulations.

#### Unauthorised modifications, manufacture of spare parts

The equipment may only be modified or altered in agreement with the manufacturer. The use of original spare parts and accessories approved by the manufacturer is important for safety reasons. The use of other parts can result in liability for consequential damage being rescinded.

#### Unauthorised operating methods

The operational safety of the supplied equipment is only guaranteed if the equipment is used for its intended purpose. The limiting values given in the "Technical Data" section may not be exceeded under any circumstances.

#### Instructions regarding accident prevention

Before commencing servicing or maintenance works, cordon off the working area and check that the lifting gear is in perfect condition.

Never work alone. Always wear a hard hat, safety glasses and safety shoes and, if necessary, a suitable safety belt.

Before carrying out welding works or using electrical devices, check to ensure there is no danger of explosion.

People working in wastewater systems must be vaccinated against the pathogens that may be found there. For the sake of your health, be sure to pay meticulous attention to cleanliness wherever you are working.

Make sure that there are no toxic gases in the working area.

Observe the health and safety at work regulations and make sure that a first-aid kit is to hand.

In some cases, the pump and the pumping medium may be hot and could cause burns.

For installations in areas subject to explosion hazards, special regulations apply!

## APPLICATION

The OXYPERL range of submersible motorised aerators is suitable for aerating and circulating wastewater in small-scale clarification plants. Other uses, for instance, are the insertion of oxygen into garden ponds or fish ponds.

When using the aerators, the relevant national laws, regulations and stipulations must be adhered to, for example:

- Household and similar electrical appliances - Safety (e.g. DIN EN 60335-2-41 in Germany )
- Installation of low voltage systems (e.g., VDE 0100 (30 mA FI) in Germany)

### Aeration of wastewater

The aeration propeller develops a vacuum and takes air in through the suction hose, which is connected to the atmosphere. The narrow air ducts in the aeration propeller accelerate the air and release it into the wastewater in fine bubbles.

The aerator is optimised for a particular submersion depth. At greater depths the air insertion performance decreases. To maintain the best possible air insertion performance it is important to adhere to the specified depth (please refer to the section entitled Installation).

### Circulation of wastewater

The OXYPERL circulates the wastewater in the small-scale clarification plant and, as a result of this, the activated sludge flakes are evenly distributed in the wastewater.

Due to a special wing design, the flake structure of the activated sludge is preserved well. This is an important condition for achieving good clarification results.

### Temperatures

The maximum temperature of the wastewater medium is 86°F (30°C).

The submersible motorised aerator is frost-resistant down to -4°F (-20°C) when stored in dry conditions. When installed, however, it must not be allowed to freeze in the water.

### Transport

**NOTICE!** The aerator must always be lifted by the handle and never by the power supply cable! The aerator should only be lowered into the medium using a rope or chain.

**NOTICE!** During transport and when setting the aerator down, there must not be any mechanical load exerted on the aeration propeller.

## ELECTRICAL CONNECTION

**NOTICE!** Only qualified electricians may carry out electrical works to the pump or the controls.

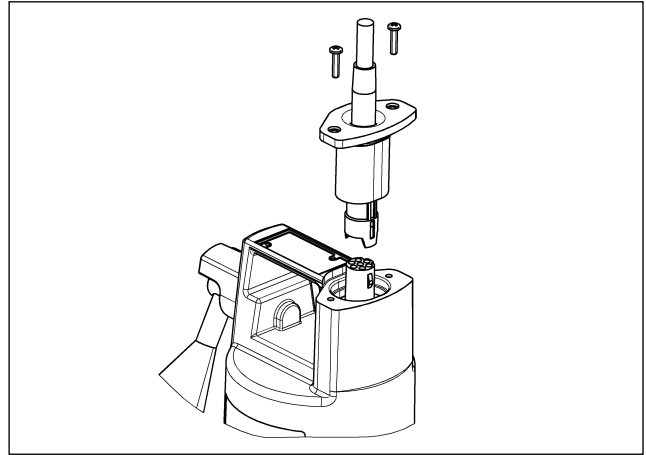
The relevant standards (such as EN standards), country-specific regulations (such as VDE in Germany), and the regulations of the local power supply companies must be observed.

**NOTICE!** Never put the free lead end in water! If water gets into the plug, this can cause malfunctions and damage.

Observe the operating voltage (see the type plate)!

The pump must only be connected up to electrical installations with an earth wire in accordance with the regulations. It must be protected with a 10 A fuse. No additional motor protection is required, since the system has an integrated winding thermostat. Inadmissible temperatures and operating times will result in the thermostat switching the system off (please refer to the section entitled Application). After the thermostat has switched off the system, pull out the mains plug before remedying the fault, since the aerator can switch itself on again automatically after cooling down if the power is still connected!

### Replacing the connection cable



Only use original manufacturer's parts. We recommend replacing the seal and the screws each time the connection cable is replaced.

**NOTICE!** When the connection cable is loosened, the motor compartment is opened. Please ensure clean and dry conditions when handling the aerator.

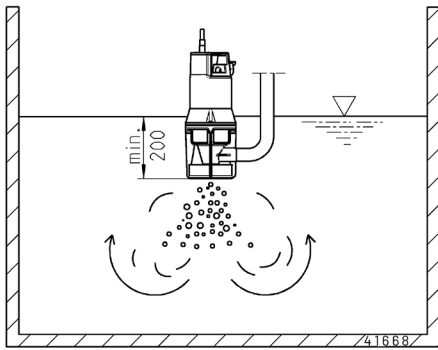
**NOTICE!** Do NOT use a power screwdriver. A size 2 PZ screwdriver must be used to unscrew and tighten the connection cable.

Grease the sealing ring with Vaseline before inserting the cartridge. Then tighten the screws by hand (max 1 Nm).

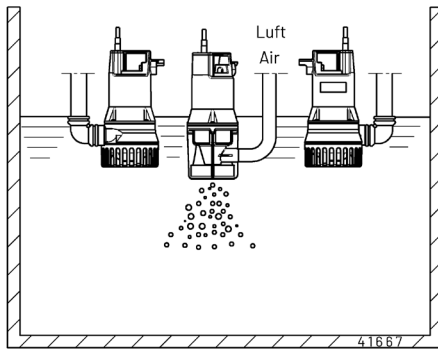
## INSTALLATION

The OXYPERL 3 develops a thrust of 20 N, and the OXYPERL 5 a thrust of 38 N, due to the propeller. The aerator must therefore be securely attached to prevent it from twisting or slipping.

During installation, particular care must be taken to ensure that the four cooling surfaces under the control head are fully submersed in the wastewater and that the prescribed installation dimensions of at least 200 mm are complied with! If there is insufficient cooling, the motor temperature will rise and the electric motor will switch off automatically.

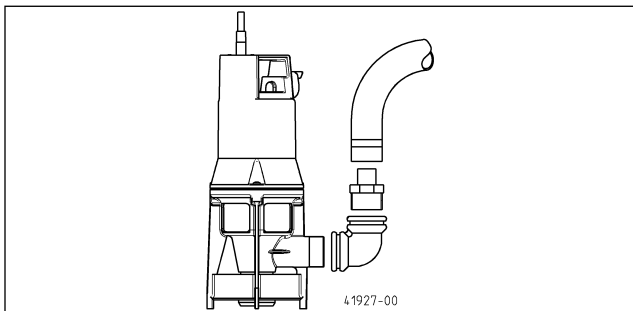


Installation of SBR system with two Oxylift aerators



It must be ensured that all mains cables from the submersible motorised aerator and the pumps used are securely attached and do not float in the wastewater. This will prevent the rotating propeller from coming into contact with the cables and damaging them. The propeller itself is protected by a guide ring on the housing.

Attachment of aeration hose (example)



Securely attach a 90° bend to the male thread socket and then screw a hose nozzle into the bend. The suction hose can now be secured to the nozzle with a hose clamp.

**NOTICE!** If the pump is malfunctioning, a slight leakage of the contents of the oil reservoir into the wastewater medium is possible.

## MAINTENANCE

To ensure continued reliability of service, we recommend that you take out a service contract.

### **WARNING!**

Before carrying out any works: disconnect the pump and the controls from the mains and take steps to ensure that no one else can reconnect them to the power supply.

### **WARNING!**

Check the mains cable for signs of mechanical and chemical damage. Damaged or kinked cables must be replaced by the manufacturer.

### **CAUTION!**

Do not touch the pump until all rotating parts have come to a standstill.

**NOTICE!** When using a chain to lift the aerator, please observe the relevant national regulations regarding accident prevention.

Remove any solids and fibres from the aerator housing and the aeration propeller. To maintain the function of the cooling surfaces, they must be cleaned regularly to remove any residues (e.g. limescale).

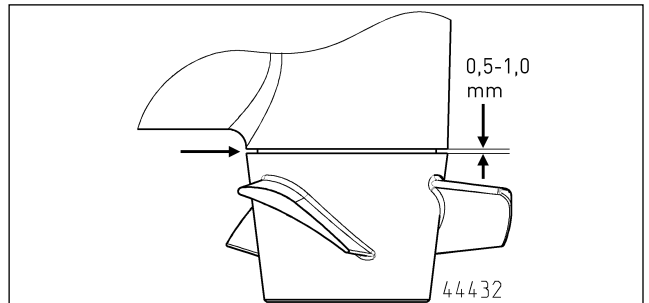
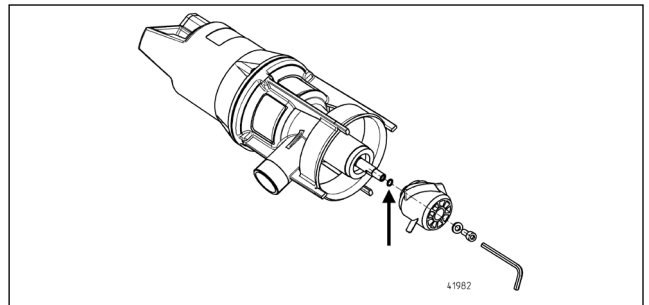
### Replacing the propeller

**NOTICE!** In some models, there is a special shim disc between the motor shaft and the propeller. This must also be re-inserted after the propeller has been replaced.

The propeller is attached to the motor shaft with a cylinder head screw. This screw must first of all be removed using an Allen key, and then the propeller can be carefully taken off the motor shaft and replaced.

The propeller must not rub against the housing once it has been tightened, otherwise a shim must be inserted between the housing and the propeller.

**NOTICE!** The gap between the housing and the propeller must not be greater than 1 mm, as otherwise the mechanical seal on the OXYPERL will not be sufficiently prestressed and oil leaks may occur.




### Tightening torque $M_A$ of the screws

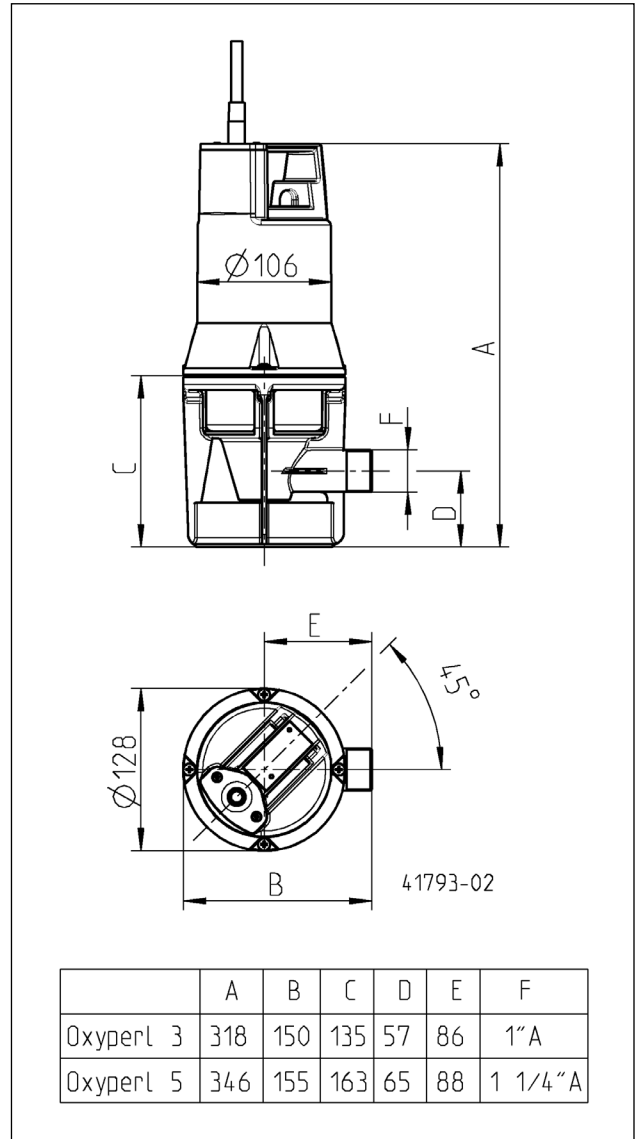
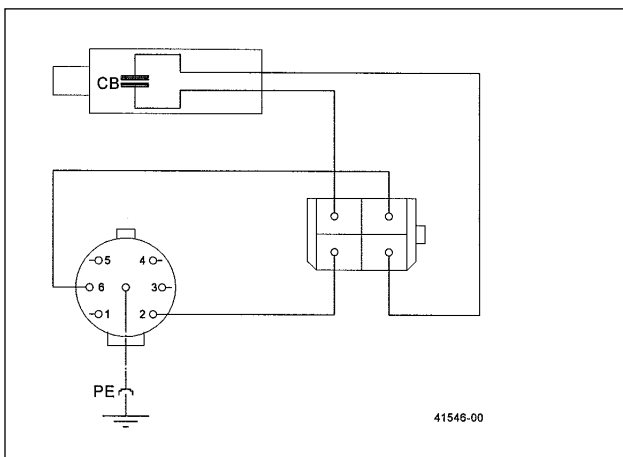
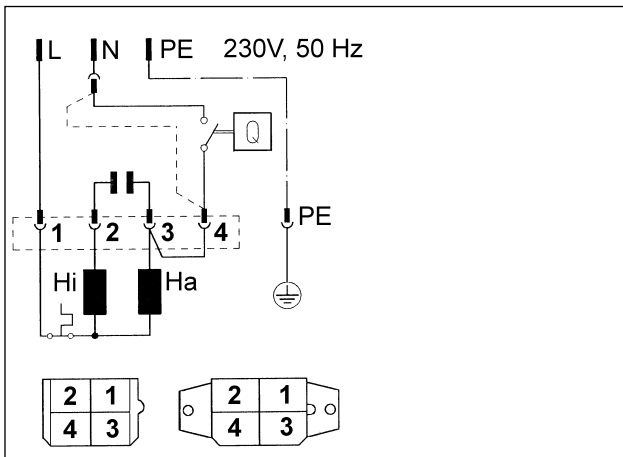
M 6 :  $M_A = 5 \text{ Nm}$ , Amtec 3.5 :  $M_A = 1 \text{ Nm}$  and Amtec 5.0 :  $M_A = 2 \text{ Nm}$ .

### Air reflux valve (Accessory)

A particularly for problematic cases developed optional air reflux valve presents a pressure compensation when switching off the aggregate. This also ensures that no solids get into the propeller.

# TECHNICAL DATA

	OXYPERL 3 /2	OXYPERL 5 /1
[kg]	4	5
 [mm]	32	40
P1 [W]	310	540
P2 [W]	210	390
U [V]	1/N/PE ~230	1/N/PE ~230
f [Hz]	50	50
I [A]	1,37	2,36
n [min <sup>-1</sup> ]	2765	2700



EU-Konformitätserklärung  
EU-Prohlášení o shodě  
EU-Overensstemmelseserklæring  
EU-Declaration of Conformity  
EU-Vaatumustenmukaisuusvakuutus

EU-Déclaration de Conformité  
EU-Megfelelőségi nyilatkozat  
EU-Dichiarazione di conformità  
EU-Conformiteitsverklaring  
EU-Deklaracja zgodności

EU-Declarație de conformitate  
EU-Vyhlášení o zhode  
EU-Försäkran om överensstämmelse

DE - Richtlinien - Harmonisierte Normen  
CS - Směrnice - Harmonizované normy  
DA - Direktiv - Harmoniseret standard  
EN - Directives - Harmonised standards  
FI - Direktiivi - Yhdenmukaistettu standardi

FR - Directives - Normes harmonisées  
HU - Irányelve - Harmonizált szabványok  
IT - Direttive - Norme armonizzate  
NL - Richtlijnen - Geharmoniseerde normen  
PL - Dyrektywy - Normy zharmonizowane

RO - Directivă - Norme coroborate  
SK - Smernice - Harmonizované normy  
SV - Direktiv - Harmoniserade normer

- 2006/42/EG (MD) EN ISO 12100:2010, EN 60335-1:2012/A11:2014
- 2011/65/EU (RoHS)
- 2014/30/EU (EMC) EN 55014-1:2006/A2:2011, EN 55014-2:1997/A2:2008,  
EN 60034-1:2010, EN 61000-3-2:2014, EN 61000-3-3:2013

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DE - Wir erklären in alleiniger Verantwortung, dass das Produkt den aufgeführten Richtlinien entspricht.  
CS - Prohlašujeme na svou výlučnou odpovědnost, že výrobek odpovídá jmenovaným směrnici.  
DA - Vi erklærer under ansvar at produktet i overensstemmelse med de retningslinjer  
EN - We hereby declare, under our sole responsibility, that the product is in accordance with the specified Directives.  
FI - Me vakuutamme omalla vastuullamme, että tuote täyttää ohjeita.  
FR - Nous déclarons sous notre propre responsabilité que le produit répond aux directives.  
HU - Kizárólagos felelősségünk tudatában kijelentjük, hogy ez a termék megfelel az Európai Unió fentnevezett irányelveinek.  
IT - Noi dichiariamo sotto la nostra esclusiva responsabilità che il prodotto è conforme alle direttive citate  
NL - Wij verklaren geheel onder eigen verantwoordelijkheid dat het product voldoet aan de gestelde richtlijnen.  
PL - Z pełną odpowiedzialnością oświadczamy, że produkt odpowiada postanowieniom wymienionych dyrektyw.  
RO - Declaram pe proprie răspundere că produsul corespunde normelor prevăzute de directivele mai sus menționate.  
SK - Na výlučnú zodpovednosť vyhlasujeme, že výrobok spĺňa požiadavky uvedených smerníc.  
SV - Vi försäkrar att produkten på vårt ansvar är utförd enligt gällande riktlinjer.

<b>Oxyperl 3</b> (JP44430)	<b>Oxylift 2</b> (JP09469)	<b>Oxylift 2 S</b> (JP09470)
<b>Oxyperl 3</b> (JP44431)	<b>Oxylift 2</b> (JP09471)	<b>Oxylift 2 S</b> (JP09472)
<b>Oxyperl 3</b> (JP44432)	<b>Oxylift 2</b> (JP09488)	<b>Oxylift 2 S</b> (JP09489)
<b>Oxyperl 5</b> (JP45228)		

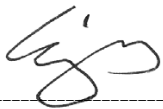
DE - Weitere normative Dokumente CS - Jinými normativními dokumenty DA - Andre normative dokumenter EN - Other normative documents FI - Muiden normien FR - Autres documents normatifs HU - Egyéb szabályozó dokumentumokban leírtaknak IT - Altri documenti normativi NL - Verdere normatieve documenten PL - Innymi dokumentami normatywnymi RO - Alte acte normative SK - Iným záväzným dokumentom SV - Vidare normerande dokument:


**EN 60335-2-41:2003/A2:2010**

DE - Bevollmächtigter für technische Dokumentation CS - Oprávněná osoba pro technickou dokumentaci DA - Autoriseret person for teknisk dokumentation EN - Authorized person for technical documentation FI - Valtutettu henkilö tekninen dokumentaatio FR - Personne autorisée à la documentation technique HU - Hivatalos személyi műszaki dokumentáció IT - Persona abilitata per la documentazione tecnica NL - Bevoegd persoon voor technische documentatie PL - Pełnomocnik ds. dokumentacji technicznej RO - Persoană autorizată pentru documentație tehnică SK - Oprávněná osoba pro technickou dokumentaci SV - Auktoriserad person för teknisk dokumentation:

JUNG PUMPEN - Stefan Sirges - Industriestr. 4-6 - 33803 Steinhagen

Steinhagen, 10-09-2018

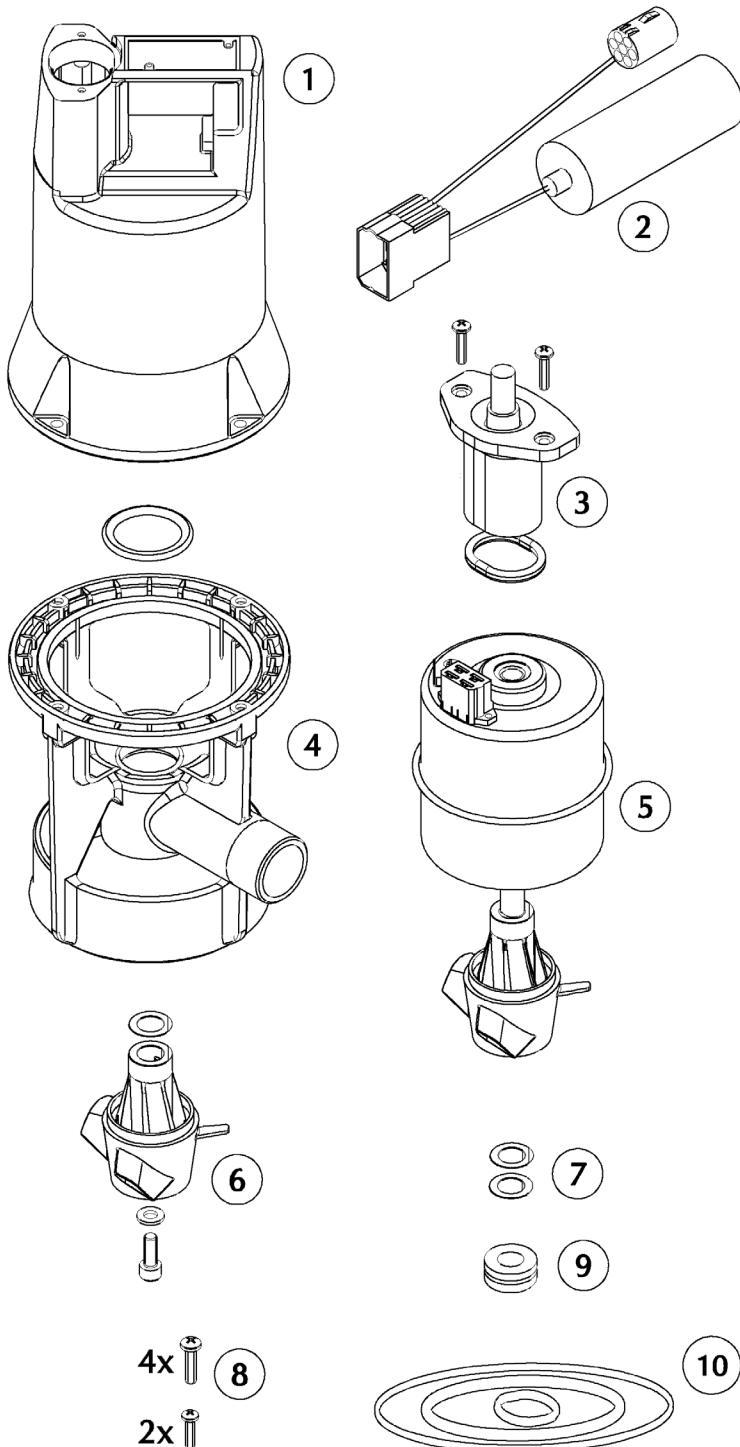
  
Stefan Sirges, General Manager

  
i.V. Rüdiger Rokohl, Sales Manager



## OXYPERL 3 • OXYPERL 5

Spare parts



① Haube	Top cover	<b>JP46928</b>
② Kabelbaum	Cable gland	
Oxyperl 3		<b>JP46921</b>
Oxyperl 5		<b>JP46930</b>
③ Leitung	Cable	
1,5 m		<b>JP46925</b>
4 m		<b>JP46926</b>
10 m		<b>JP45084</b>
20 m		<b>JP46927</b>
④ Belüftergehäuse	Aerator housing	
Oxyperl 3		<b>JP45082</b>
Oxyperl 5		<b>JP46196</b>
⑤ Motoreinheit	Motor unit	
Oxyperl 3		<b>JP45081</b>
Oxyperl 5		<b>JP46195</b>
⑥ Propeller	Propeller	
Oxyperl 3		<b>JP45083</b>
Oxyperl 5		<b>JP46197</b>
⑦ Ausgleichscheiben	Compensating disks	<b>JP45109</b>
⑧ Schraubensatz	Screw set	<b>JP42773</b>
⑨ Motordichtung	Motor seal	<b>JP48224</b>
⑩ Dichtungssatz	Seal set	<b>JP46354</b>





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