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## 1. DESCRIPTION

To prevent unnecessary calls to service technicians, prevent possible accidents and obtain the very best performance from you pump, **PLEASE READ THIS MANUAL CAREFULLY.**

These electric pumps have been designed to recirculate lightly treated water in private and public swimming pools, spas and water features.

### 1.1 TECHNICAL CHARACTERISTICS

#### Motor:

Power:	See nameplate
Insulation:	Class F
Service:	Continuous
Protection:	IP55
Voltage:	See nameplate
Consumption:	See nameplate
Frequency:	See nameplate
R.P.M.:	See nameplate
Shaft:	Stainless steel
Bearings:	Shielded ball bearings
Ambienttemp:	Maximum 40° C

#### Pump:

Watertemp.:	Maximum 50° C
Maximumpressure:	2 bar
Turbine model:	Closed
Sealtype:	Mechanicalseal
Diffuser:	Noryl charged with fibre glass
Turbine:	Noryl charged with fibre glass
Pumpbody:	Synthetic material (PPO)
Filtercover:	Synthetic material (SAN)
Basket:	Synthetic material (PP)
ø intake:	2" Gas thread Glue connection ø1.5" / ø50 / ø2" / ø63
ø discharge:	2" Gas thread Glue connection ø1.5" / ø50 / ø2" / ø63

## 2. SAFETY INSTRUCTIONS

This manual contains the instructions required for the installation, use and maintenance of the **K5 PUMP**. To achieve the maximum performance indicated by the manufacturer in the description ensure you follow all recommendations contained in this manual. Doing so will ensure safe and long-lasting operation of the unit.

**CAREFULLY READ AND FOLLOW ALL SAFETY INSTRUCTIONS PROVIDED IN THE MANUAL AND INDICATED ON THE UNIT.**

Ensure safety labels are kept in good condition and replace them in the event of loss or damage

### 2.1 MANUAL SAFETY SYMBOLS

All instructions that refer to risks to personal safety are indicated with the following symbols:



This symbol indicates a danger. Whenever you see this symbol on the unit or in the manual, look for one of the following messages to find out about the potential risk to personal safety.



**DANGER**

This symbol warns of risks that will cause a fatal or serious personal injury or serious material damage if ignored.



**WARNING**

This symbol warns of risks that may cause a fatal or serious personal injury or serious material damage if ignored.



**CAUTION**

This symbol warns of risks that will or may cause a minor personal injury and/or material damage if ignored.

**ATTENTION**

Other instructions regarding the operation of the unit which could cause physical harm if not carried out.

**NOTICE**

Special instructions not relating to risks.



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ELECTRICAL DISCHARGE HAZARD.

## 2.2 IMPORTANT SAFETY INSTRUCTIONS

The following basic safety instructions must always be observed when operating this unit:

**WARNING**

To reduce the risk of injury, the unit should be installed and commissioned by qualified personnel or installers.

**CAUTION**

This pump is intended for use in permanent swimming pools, spas and water features. Do not use in collapsible swimming pools.

**WARNING**

**Dangerous pressure levels. Incorrect installation of this unit can cause serious injury or damage to the installation.** Carefully read and follow the manual's instructions during installation and operation of the unit.

1. The unit should be commissioned by qualified personnel or installers.
2. Do not connect the installation to the mains water supply or to a high pressure network.
3. Only use the unit in swimming pool or spa installations.
4. Air inside the installation may cause explosions. You must ensure that all air has been removed from the installation before starting up the unit.

## 2.3 RATING PLATES

The information provided on the rating plate or any other instructions provided by the manufacturer on the unit must be strictly adhered to. The contents of plates and instructions are reflected in this manual under points.

***"1.1. TECHNICAL CHARACTERISTICS AND CHARACTERISTICS AND DIMENSIONS"***.

## 2.4 RESPONSIBILITY

Failure to comply with the instructions provided by the manufacturer in this manual for the selection, handling, installation, commissioning and maintenance of the unit will release the manufacturer or distributor of any liability for possible personal accidents or damage caused to the rest of the installation, and will render the guarantee null and void.

## 2.5 REGULATIONS

Our brand of electric pumps are manufactured in accordance with the essential health and safety requirements stipulated in European Community Directives 2006/42/EC, 2004/108/EC and 2006/95/EC (transposed into Spanish Law in Royal Decrees 1644/2008, 1580/2006 and 7/1988 and amendment 154/1995, respectively).

## 2.6 GENERAL SAFETY INSTRUCTIONS REGARDING USER SAFETY.



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The safety of the unit supplied can only be guaranteed if used as indicated in the diagrams contained on ***"ILLUSTRATIONS AND ELECTRICAL DRAWINGS"***. Under no circumstances must the operating conditions and limits indicated in this manual (***CHAPTER 1.1. TECHNICAL CHARACTERISTICS***) or those indicated on the electrical rating plate located on the unit be exceeded. Compliance with the provisions of the Safety Regulations in force in each country is mandatory.



Ensure that you have selected the correct unit for the purpose for which it is intended and that the condition, installation, commissioning and subsequent use of the equipment is correct. See chapter “1.1. TECHNICAL CHARACTERISTICS”.



Installation, repair and maintenance operations must always be carried out while the unit is disconnected from the power supply.



Safety elements or electrical connection/disconnection elements must not be activated in the presence of humidity and particular care must be taken to ensure that the operator's hands, footwear or contact surfaces are dry.



The unit must not be moved or have its position corrected during operation. Such tasks should always be carried out when the unit is stopped.



Parts of the equipment that move during operation or may reach high temperatures must be protected with grills or housings to prevent accidental contact with them.



Electrical conductors or live parts must be equipped with suitable insulation. Other metal parts of the unit must be connected to earth.



All necessary spares must be the manufacturer's original spare parts or those recommended by the manufacturer. The use of other spare parts, or originals rectified by third parties, is not permitted and **will release** the manufacturer or distributor from all liability.



This apparatus is not designed to be used by people (including children) with reduced physical, sensorial or mental capabilities, or those lacking experience or knowledge, unless they have received appropriate supervision or instruction on the correct use of the apparatus from a person responsible for its safety.



**This apparatus is not a toy.**  
Ensure that children do not play with it.

### 3. PACKAGING, TRANSPORTATION AND STORAGE

**ATTENTION**

The manufacturer supplies the equipment protected with the appropriate packaging, so as to prevent any damage during transport or storage that may prevent its correct installation and/or operation.

**ATTENTION**

On receiving the unit, check the following points:

- The condition of the outer packaging. If it shows significant signs of damage, formally report it to the person making the delivery.
- Check the condition of the contents. If the contents present imperfections that will presumably prevent the correct operation of the unit, formally report the situation to the supplier within a maximum period of 8 days from receipt.

**ATTENTION**

Storage conditions must be such that they will guarantee the good state of repair of the unit. It is especially important to avoid storing the unit in markedly humid environments or in conditions where brusque temperature changes may occur (resulting in condensation).

## 4. INSTALLATION

### 4.1 SITE

#### ATTENTION

Only qualified personnel should install and connect the unit.

The unit must be installed in a dry site. The site must be equipped with a drainage point in the floor to protect against flooding. If the unit is installed in a humid site, a ventilation system must be installed to prevent the formation for condensation. In cases where the unit is installed in confined areas, a forced ventilation system may be required to ensure that the ambient temperature of 40 °C (104°F) is not exceeded.

Do not store pool chemicals near to the unit.

It is important to leave sufficient clearance to allow for the horizontal removal of the motor block and the vertical removal of the hair filter (see drawing in **FIGURE 1**).

### 4.2 INSTALLATION

The unit must be installed away from corrosive or flammable liquids.

It must be anchored to the floor using two M8 bolts or draw bolts of size 8 diameter and of sufficient length to ensure a secure fixture.

The unit must installed as close to the pool as possible and preferably at an elevation of 0.5 meters below sea level (never more than 3 m) to enable "charged" operation.

The pipes used for the installation must be principally PVC.

The intake pipe must be completely watertight and installed with a downward slope of no less than 1/100, thus preventing the formation of air pockets.

At permanent installations, where the pump is located above the water level (suction installations), the intake pipe must be equipped with a foot valve and every effort must be made to ensure that the majority of the pipe is located below the level of the pump intake shaft until reaching the point that vertically coincides with the shaft. The intake pipe must be a rigid pipe.

At permanent installations where the pump is located below the water level, a stop valve should be installed at both the intake and the discharge.

## 5. ELECTRICAL CONNECTION



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The electrical installation must fully comply with the Regulations and Supplementary Technical Provisions in force in each country and must be carried out by an authorised installer.



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Dangerous voltage may cause shock, burns or even death. Connect to ground before connecting the power. The power supply must be equipped with neutral and earth conductors.

### 5.1 VOLTAGE

The supply voltage to the motor must match the voltage indicated on the unit's rating plate, with a permitted variation of + 10%. If the supply voltage is less than 90% or greater than 110% of the voltage indicated on the rating plate, contact the power supply company.

Do not connect a three-phase motor to a single-phase power supply or vice-versa.

## 5.2 ELECTRICAL PROTECTION

The installation on the fixed wiring of an electrical connection/disconnection, protection and switching system which includes all necessary and recommended elements is compulsory. The system must be equipped with:

A disconnecting circuit breaker that guarantees omnipolar disconnection, directly connected to the power supply terminals and with contact separation on all of its poles, providing total disconnection in overvoltage category III conditions.

Short-circuit and overload protection devices on motors.

Power supply via a residual current device (RCD) (differential switch), which has an assigned operating current not exceeding 30 mA.

The unit must not be operated without additional protection (i.e. motor protection relay).

The characteristics and settings of such devices must be suitable for the equipment to be protected and the expected operating conditions. The manufacturer's instructions must be followed at all times (see rating plate).

*See section 10. "TABLE OF CONDUCTORS AND CIRCUIT BREAKERS".*

## 5.3 ELECTRICAL CONNECTION

### GROUND CONNECTION.

The earthed apparatus must be permanently connected to the fixed electrical installation.

All exposed non-live metal parts of the unit that may accidentally become live must be electrically connected to the mains earthing conductor and to the earth connection of the pool structure, in accordance with the specification of the applicable National or Local Electrical Code. Use a copper conductor with a minimum section of 2,5mm<sup>2</sup> or AWG 13.

### POWER SUPPLY.



This unit is supplied with power cables used for factory testing connected to its connection terminals. These cables must be removed in order to connect the power supply.

### **Never connect the power supply using the factory testing cables.**

The unit must be permanently connected to the fixed electrical installation. Ensure that no other equipment is connected to the same circuit.

The types and sections of power cables must comply with the specifications of the applicable Local or National Electrical Code. *See chapter 10.* You must select cables that are designed to withstand at least the current absorbed by the unit (see nameplate). Cables must be connected to the unit's terminals blocks using the appropriate terminals.

The conductors must enter and exit the unit's connection box through a cable gland, providing a watertight seal to prevent the ingress of water and dirt. *(see fig. 3, 5).*

On three phase units, care must be taken to correctly position the motor winding connections. *(see fig. 4, 5).*

Check the motor rotation direction before connecting the pump to the installation and before making the final connection to the mains power supply.

**To change the rotation direction** on three-phase motors, swap the position of two of the motor's power supply cables.

## 6. PUMP HYDRAULIC REQUIREMENTS



### WARNING

The suction of the pump is dangerous and can trap and even drown swimmers. Never use or allow anyone else to use a pool, spa or water feature unless there are at least two inputs on each pump intake line. Never use or operate pools, spas or water features if the grills on intakes are broken or missing.

Follow the instructions listed below to minimise risks.

#### 6.1 PROTECTION AGAINST ENTRAPMENT

The pool's suction system must provide protection against the risk of hair entrapment or suction.

#### 6.2 COVERS/GRILLES ON INTAKE POINTS

All intake points must have covers/grilles in a good state of repair. Covers/grilles must be replaced if cracked, broken or missing.

#### 6.3 PUMP INTAKE POINTS

There must be at least two balanced main drains with grilles for each pump intake line, with a minimum separation of 1m (3 feet) between the centres of the main drain.

The system must be built in such a way that it cannot function if water flows to the pump from just one sump (there must be at least two main drain connected to the pump whenever it is operating). In any case, if two main drain are connected to an individual intake line, that line must be equipped with a valve that allows the flow of water to the pump from both main drains to be shut-off.

#### 6.4 WATER SPEED AND FLOW

The maximum water speed must be less than or equal to 1.2 m/s (4 feet per second) unless the intake flow complies with the latest specifications indicated in the regulations of each country, region or community regarding the use of suction systems in swimming pools, spas or water features.

If 100% of the pump's water flow comes from the main drain system, the maximum water speed in the suction system should be 1.2 m/s (4 feet per second) at all times, even if one of the main drains is completely blocked. The water flow in the other remaining drain(s) must comply with the latest specifications indicated in the regulations of each country, region or community regarding the use of suction systems in swimming pools, spas or water features.

#### 6.5 PIPE INSTALLATION

The pipe system must have at least the same section as the pump connections, i.e.  $\varnothing 50$  ( $\varnothing 1\text{-}1/2''$ ) pipes for pumps with a power rating of up to 1 CV or  $\varnothing 63$  ( $\varnothing 2''$ ) pipes for pumps with a power rating above 1 CV.

To prevent stresses on the body of the pump, the installation, pipes and associated connection elements, pipes must be correctly aligned with the pump without using force, whilst attempting to ensure that both the intake and discharge pipes are secured independently as close to the pump as possible.

To prevent stresses on the installation due to small differences on the final connection of the installation pipes, we recommend starting the installation at the pump.

#### INTAKE.

Cavitation may occur if the pump's intake becomes obstructed, causing damage to the internal elements of the pump. Keep the intake pipe clear of debris, solid residue and dirt.

All pipe systems containing water must be equipped with valves to prevent flooding during pump maintenance.

Never use a pipe with a diameter of less than  $\varnothing 50$  ( $\varnothing 1\text{-}1/2''$ ) on the intake of a pump with a power rating of up to 1 CV, or a pipe with a diameter of less than  $\varnothing 63$  ( $\varnothing 2''$ ) on the intake of a pump with a power rating above 1 CV. Use larger pipes whenever needed to maintain the water speed below 1.2 m/s (4 feet per second). The intake pipe must be one continuous run from its starting point to the pump. In order to prevent air pockets, the intake pipe must never be positioned higher than the water level or the level of the pump. Whenever reducers are required to connect the pump, we recommend the use of concentric reducers.

## DISCHARGE

In order to reduce load losses, we recommend the use of pipes of a larger diameter than the pump discharge and the use of as few connection elements as possible. Connection elements that may cause air pockets should not be used under any circumstances.

The diameter of the pipes used must be such that it ensures that the water speed remains below 2 m/s (7 feet per second).

## 7. COMMISSIONING

Before turning on the mains power to the pump unit, ensure that the electrical conditions are correct and manually check that the pump has not seized.

### 7.1 PUMP PRIMING

Ensure that there is no pressure in the filter, pump or pipe system.

**Never run the pump when dry.** The water acts as a coolant for the mechanical seal. If the pump is operated when dry, the mechanical seal may be damaged, causing leaks, flooding and rendering the guarantee null and void.



#### WARNING

- Re-filter to close the manual air output valve when the water flow is constant (there is no air) on the valve discharge. Failure to carry out this task may result in injury.
- If the water level is above the level of the pump, ensure the cover is hermetically sealed and fill the pump by slowly opening the stop valve on the intake whilst keeping the discharge valve open.
- If the water level is below the level of the pump, remove the pre-filter cover and fill with water up to the intake point. Replace the cover, ensuring it is sealed correctly.
- Do not start the pump without the hair and lint filter, since it could cause an obstruction and block the pump.
- Check that there are no leaks on the pump or the filter. If there are signs of leaks, **DO NOT START THE PUMP.**
- The pump is self-priming and uses pipes with a diameter of less than  $\varnothing 50$  ( $\varnothing 1\text{-}1/2''$ ) for pumps with a power rating of up to 1 CV, or a pipes with a diameter of less than  $\varnothing 63$  ( $\varnothing 2''$ ) for pumps with a power rating above 1 CV. Start the pump and wait until the pump is primed, this can take up to 5 minutes. The priming time will depend on the vertical and horizontal length of the intake pipe. If the pump does not self-prime, stop the pump and investigate the cause. Ensure that the intake and discharge valves are open when the pump is in operation.
- Ensure that the motor turns freely. Never start the pump if the motor is blocked. The motors have a ridge at the end of the shaft in the fan area that allows users to manually check the motor rotation using a screwdriver. (**FIGURE 1**).



- Start the motor for a few seconds, no more than 3, and check that the rotation direction matches the direction of the arrow shown on the fan cover. If this is not the case, advise an authorised service technician. **To change the rotation direction** on three-phase motors, swap the position of two of the motor's power supply cables.
- Check that the motor does not exceed the consumption level indicated on the motor rating plate. If it does, adjust using the valve located on the pump discharge.

## 7.2 MAINTENANCE



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**Disconnect the power before performing any maintenance task on the pump.**

- Control and clean the pump basket on a regular basis. Close the intake and discharge valves. Remove the pre-filter cover and remove the basket. **Never hit** the basket to clean it, simply rinse it out under the tap. Replace the basket in its original position. Before replacing the seal on the pre-filter cover, check it and lubricate it with neutral Vaseline. Replace the pre-filter cover, ensuring a hermetic seal.
- The transparent pre-filter cover must be cleaned with water and a neutral detergent. **Never use solvents. Do not place chemical products inside the pre-filter.**
- **Remember, all changes to the position of the selector valve or the valve manifold of the filter must be made when the pump is stopped.**
- Remember to open the intake and discharge valves again before re-starting the pump.
- The motor bearings are self-lubricating and therefore do not require lubrication.
- The pump's mechanical seal is lubricated with water from the pump itself. It does not require lubrication. The mechanical seal will need to be replaced occasionally due to wear or damage. Replace with KRIPSOL original spareparts.

## 7.3 PRESERVATION



Norma DIN  
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**Disconnect the power before performing any maintenance task on the pump.**

- If the pump is not used for a long period of time, or there is a danger of freezing, empty the body of the pump by releasing the drain plugs equipped with O-rings. First check that the installation, pump, filter and pipes are not pressurised.  
Before re-starting the pump, replace the drain plugs and their respective O-rings and prime the pump as described in point 7.1 of this manual. Keep the motor covered and dry while in storage.
- To prevent issues of condensation or corrosion, do not cover or wrap the pump with plastic film or bags. Keep the pump in a dry place.
- Do not start the motor if it has been affected by flood water. Notify a qualified technician to disassemble the motor and dry it out if possible.
- Preservation of outdoor installations:
  1. Empty the installation
  2. Dry as much as possible.
  3. Lubricate seals with neutral Vaseline.
  4. Re-assemble.
  5. Leave drainage covers removed while the pump is not in use.

## 8. DISASSEMBLY / ASSEMBLY

### 8.1 DISASSEMBLY



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CAUTION

**Close all valves before performing any operation.**

- Disconnect the electrical installation (this must be carried out by an authorised installer).
- Disconnect and release all the cables in the connection box.
- Release the intake and discharge hoses.
- Empty the pump by removing the drain plugs and their O-rings.

To disassemble and assemble the pump, see exploded view drawing (*POINT 12. EXPLODED VIEW DRAWING*). To separate the motor from the body, remove the four screws, then extract the motor unit together with the diffuser and the turbine. To disassemble the turbine, remove the diffuser and its seal, release the cover on the fan of the motor and then use a clamp to lock it in place through the opening, whilst at the same time turning the turbine to the left with a no. 14 wrench to release it from the shaft.

**ATTENTION: The turbine's metal insert is sealed to the motor shaft with an anaerobic adhesive to prevent it from coming loose during normal starting, stopping and operation of the pump. Special care must therefore be taken when performing this operation.**

The moving part of the mechanical seal will also be released when this operation is carried out.

### 8.2 ASSEMBLY

**ALL PARTS TO BE COUPLED DURING ASSEMBLY MUST BE CLEAN AND IN PERFECT CONDITION.**

To assemble the pump:

- Assemble the mechanical seal. Position the moving part of the seal on the shaft of the impellor, pressing it down until it fits into the seat. You must have lubricated the moving part of the mechanical seal with water beforehand.
- Assemble the turbine on the motor shaft, using an anaerobic sealant to fix the metal parts in position and screwing it onto the shaft. This will connect the two tracks of the mechanical seal together.
- Position the diffuser onto the connecting body, correctly lining up the fixing points. The diffuser can only be mounted onto the body in one position.
- Position the O-rings on both the diffuser and the body.
- Mount the motor assembly on the pump body using four 30mm long DIN692 M8.

To request a spare part, you will need the name of the part, the number displayed on the exploded view drawing and the rating plate details.

## 9. TROUBLE SHOOTING

SYMPTOM	POSSIBLE CAUSE																	
	1.ELECTRICAL										2.MECHANICAL				3.INSTALLATION			
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	1	2	3	4
PUMP WORKS BUT DOES NOT PUMP OUT WATER											X	X			X	X		X
THE PUMP DOES NOT PUMP OUT ENOUGH WATER			X	X							X		X		X	X		
INSUFFICIENT PRESSURE			X	X				X	X		X		X		X	X		
EXCESSIVE VIBRATIONS								X	X		X			X		X	X	
ABNORMAL NOISE								X	X		X	X		X		X	X	
THE PUMP STOPS	X	X	X	X	X	X	X	X		X								
OVERHEATING		X	X	X					X	X			X	X			X	

CAUSE	POSSIBLE ORIGIN
<b>1.ELECTRICAL</b>	
1.1 The installation has no power.	Check each phase at the input to the control panel. Check the protection devices.
1.2 There is not power on a phase.	Check each phase at the input to the control panel. Check that the protection devices are in good condition.
1.3 Low motor voltage.	The voltage on the motor terminals should be within $\pm 10\%$ of the nominal voltage stated on the motor rating plate.
1.4 Incorrect motor connection.	Check the terminal connection diagram.
1.5 Control fault.	Check the control device on the pump for a malfunction.
1.6 Activation of thermal protection device.	Check for a mechanical obstruction or an overload.
1.7 Insulation fault.	Check that the motor windings are correctly earthed. Use a resistance meter to do so.
1.8 Open windings.	Check each winding with a resistance meter.
1.9 Frequency variation.	Check the frequency of the mains power supply. The variation must be less than 5% of the frequency indicated on the motor.
1.10 Wrong rotation direction.	Change the rotation direction on three-phase motors by swapping two of the motor's power supply cables.

SYMPTOM	POSSIBLE CAUSE
<b>2.MECHANICAL</b>	
2.1 Obstructed flow.	Locate and remove the obstruction. See the corresponding section of this manual for instructions on how to disassemble the pump.
2.2 The pump doesn't prime.	Try to prime the pump again. Check the intake system for air leaks.
2.3 Internal leaks.	Check the impellor for wear on the seals. See repair instructions.
2.4 Missing parts.	Inspect and repair.
<b>3.INSTALLATION</b>	
3.1 The pressure required for the installation is higher than the pump pressure.	Compare the pressure and flow of the pump on the pump curve. Check that the valve on the discharge is not partially or fully closed. Reduce the pressure requirements of the installation.
3.2 Obstructionontheintake.	Locate and remove the obstruction.
3.3 The pump pressure is higher than the installation pressure for the defined flow.	Check the intake pipe for obstructions, leaks, open by-pass valves, etc. If necessary, reduce the flow by partially closing the discharge valve.
3.4 The intake height exceeds 3 m.	Install the pump as close as possible on the vertical line of the intake tank.

## 10. TABLE OF CONDUCTORS AND CIRCUIT BREAKERS

- This table applies to both 50Hz y 60Hz

MOTOR POWER	FREQUENCY	VOLTAGE	SINGLE-PHASE / THREE-PHASE	CIRCUIT BREAKER RANGE	CABLE SECTION	
0,33 HP	50/60 Hz	230 V	SINGLE-PHASE	1.6 - 2.5 A	1.5 mm <sup>2</sup> - AWG 15	
0,50 HP	50/60 Hz	230 V	SINGLE-PHASE	2.5 - 4 A		
		230 V	THREE-PHASE	1.6 - 2.5 A		
		400 V				1.0 - 1.6 A
0,75 HP	50/60 Hz	230 V	SINGLE-PHASE	2.5 - 4 A		
		230 V	THREE-PHASE	2.5 - 4 A		
		400 V				1.6 - 2.5 A
1,00 HP	50/60 Hz	230 V	SINGLE-PHASE	4 - 6.3 A		2.5 mm <sup>2</sup> - AWG 15
		230 V	THREE-PHASE	2.5 - 4 A		1.5 mm <sup>2</sup> - AWG 15
		400 V		1.6 - 2.5 A		
1,50 HP	50/60 Hz	230 V	SINGLE-PHASE	6.3 - 10 A		2.5 mm <sup>2</sup> - AWG 15
		230 V	THREE-PHASE	4 - 6.3 A		1.5 mm <sup>2</sup> - AWG 15
		400 V		2.5 - 4 A		
2,00 HP	50/60 Hz	230 V	SINGLE-PHASE	6.3 - 10 A	2.5 mm <sup>2</sup> - AWG 15	
		230 V	THREE-PHASE	4 - 6.3 A	1.5 mm <sup>2</sup> - AWG 15	
		400 V		2.5 - 4 A		
3,00 HP	50/60 Hz	230 V	SINGLE-PHASE	10 - 16 A	4 mm <sup>2</sup> - AWG 11	
		230 V	THREE-PHASE	6.3 - 10 A	2.5 mm <sup>2</sup> - AWG 15	
		400 V		4 - 6.3 A		

**CARACTERISTICAS Y DIMENSIONES / CHARACTERISTICS AND DIMENSIONS  
CARACTERISTIQUES ET DIMENSIONS / KENNZEICHEN UND MASSEN  
CARATTERISTICHE E DIMENSIONI / ХАРАКТЕРИСТИКИ И ГАБАРИТЫ  
TEKNİK BELİRLEMELER VE ÖLÇÜLER**

**ILUSTRACIONES Y CUADROS ELÉCTRICOS / ILLUSTRATIONS AND ELECTRICAL DIAGRAMS  
ILLUSTRATIONS ET SCHÉMAS ÉLECTRIQUES / ABBILDUNGEN UND ELEKTRISCHE SCHALTLÄNE  
ILLUSTRAZIONI E SCHEMI ELETTRICI / ИЛЛЮСТРАЦИИ И ЭЛЕКТРИЧЕСКИЕ СХЕМЫ  
ELEKTRİKSEL ÇİZİMLER VE ŞEMALAR**

**EMPLAZAMIENTO / SITE / CHOIX DE L'EMPLACEMENT /  
AUFSTELLUNGSORT / COLLOCAZIONE / РАЗМЕЩЕНИЕ / YERLEŞTİRME**

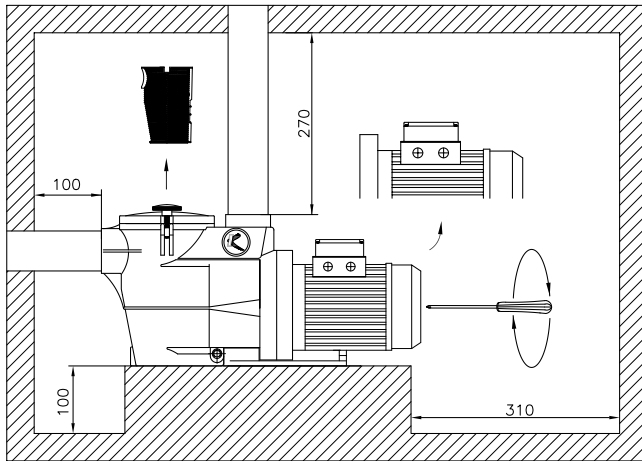


Fig. 1 / Bild 1 / Рис. 1 / Şekil 1

**CONEXIÓN MONOFÁSICA  
SINGLE PHASE CONNECTION  
CONNEXION MONOPHASÉE  
EINPHASIGE SCHALTUNG  
ALLACCIAMENTO MONOFASE  
ОДНОФАЗНОЕ ПОДКЛЮЧЕНИЕ  
MONOFAZİK BAĞLANTI**

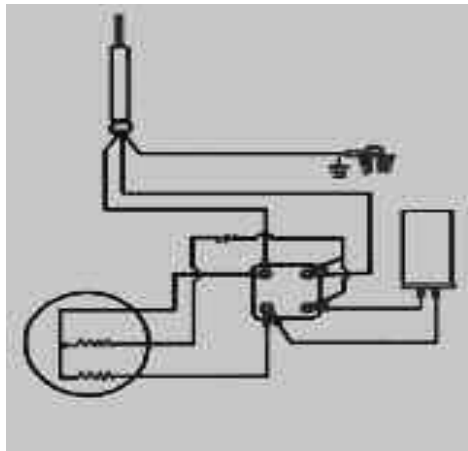


Fig. 2 / Bild 2 / Рис. 2 / Şekil 2

**CONEXIÓN MONOFÁSICA /  
 SINGLE PHASE CONNECTION / CONNEXION MONOPHASÉE /  
 EINPHASIGE SCHALTUNG / ALLACCIAMENTO MONOFASE /  
 ОДНОФАЗНОЕ ПОДКЛЮЧЕНИЕ / MONOFAZİK BAĞLANTI**

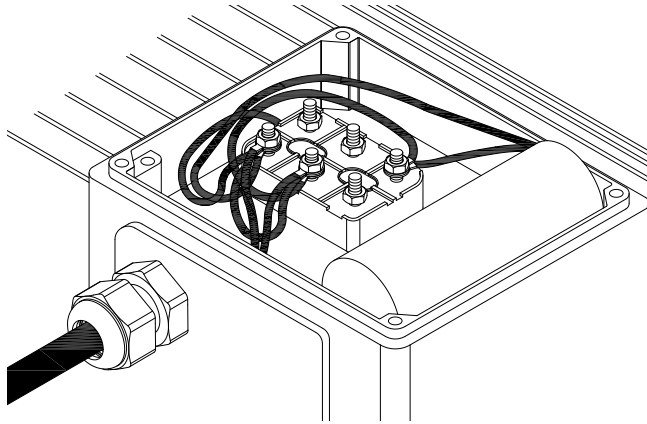
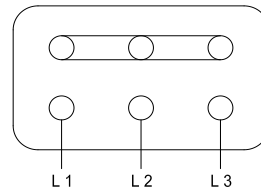
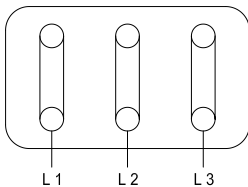


Fig. 3 / Bild 3 / Рис. 3 / Şekil 3

**CONEXIONES TRIFÁSICAS /  
 THREE PHASE CONNECTIONS / CONNEXIONS TRIPHASÉES /  
 DREIPHASIGE SCHALTUNG / ALLACCIAMENTI MONOFASE /  
 ТРЕХФАЗНОЕ ПОДКЛЮЧЕНИЕ / TRIFAZİK BAĞLANTI**

CONEXION 230V /  
 230V CONNECTION / CONNEXION 230V /  
 SCHALTUNG 230V / ALLACCIAMENTO 230V /  
 ПОДКЛЮЧЕНИЕ 230 В / 230V BAĞLANTI

CONEXION 400V /  
 400V CONNECTION / CONNEXION 400V /  
 SCHALTUNG 400V / ALLACCIAMENTO 400V /  
 ПОДКЛЮЧЕНИЕ 400 В / 400V BAĞLANTI

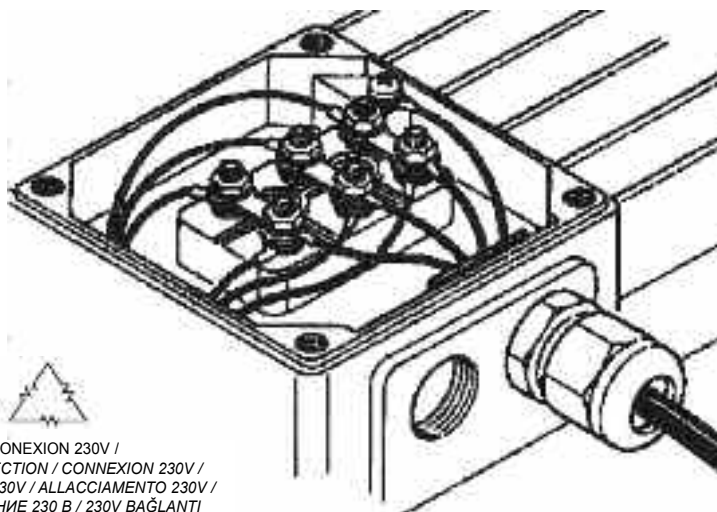


CONEXION TRIÁNGULO /  
 DELTA CONNECTION / MONTAGE EN TRIANGLE /  
 DREIECKSCHALTUNG / ALLACCIAMENTO TRIANGOLO /  
 ПОДКЛЮЧЕНИЕ ТРЕУГОЛЬНИКОМ / ÜÇGEN BAĞLANTI

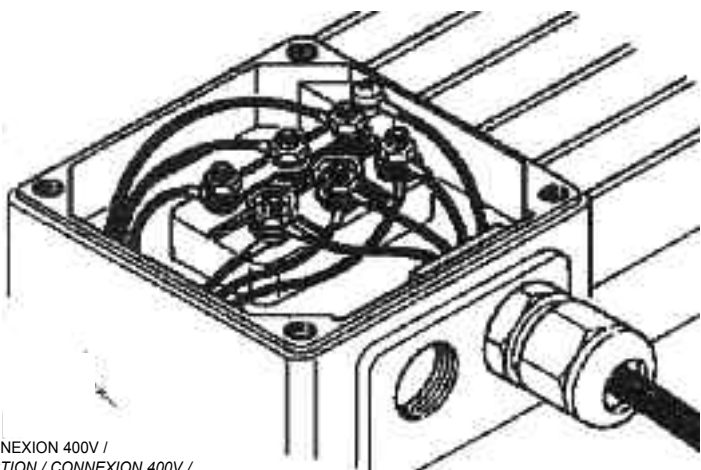
CONEXION ESTRELLA /  
 STAR CONNECTION / MONTAGE E ÉTOILE /  
 STERNSCHALTUNG / ALLACCIAMENTO STELLA /  
 ПОДКЛЮЧЕНИЕ ЗВЕЗДОЙ / YILDIZ BAĞLANTI

Fig. 4 / Bild 4 / Рис. 4 / Şekil 4

**CONEXIONES TRIFÁSICAS /  
THREE PHASE CONNECTIONS / CONNEXIONS TRIPHASÉES /  
DREIPHASIGE SCHALTUNG / ALLACCIAMENTI MONOFASE /  
ТРЕХФАЗНОЕ ПОДКЛЮЧЕНИЕ / TRIFAZİK BAĞLANTI**



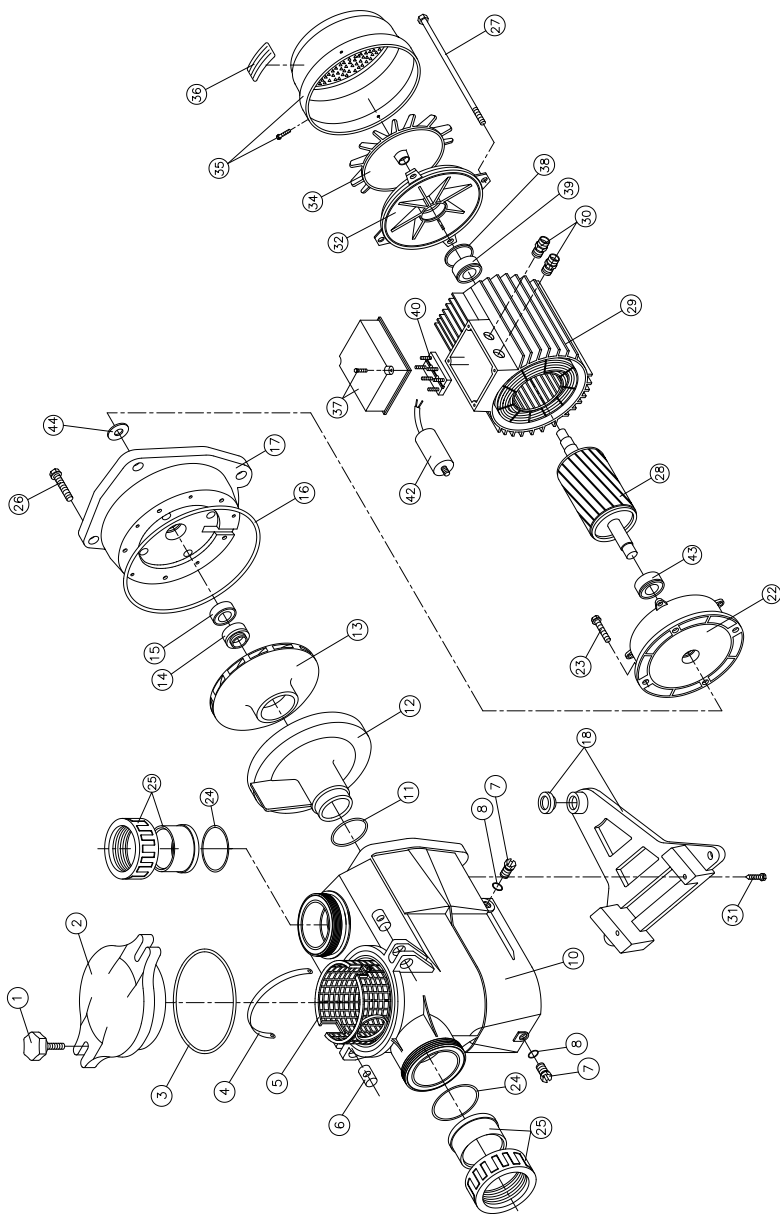
CONEXION 230V /  
230V CONNECTION / CONNEXION 230V /  
SCHALTUNG 230V / ALLACCIAMENTO 230V /  
ПОДКЛЮЧЕНИЕ 230 В / 230V BAĞLANTI



CONEXION 400V /  
400V CONNECTION / CONNEXION 400V /  
SCHALTUNG 400V / ALLACCIAMENTO 400V /  
ПОДКЛЮЧЕНИЕ 400 В / 400V BAĞLANTI

Fig. 5 / Bild 5 / Рис. 5 / Şekil 5

**PLANO DE DESPIECE /  
DETAIL DRAWING / PLAN DE DEMONTAGE /  
EXPLOSIONZEICHNUNG / DISEGNO ESPLOSO /  
ДЕТАЛЬНЫЙ ЧЕРТЁЖ / PARÇALARA AYIRMA PLANI**





POS	DENOMINACION	DESIGNATION	DESIGNATION	BEZEICHNUNG	DENOMINAZIONE	НАИМЕНОВАНИЕ	ISIM	CTD.
1	Palomilla	Cover screw	Vis papillon abatibale	Flügelschraube	Vite coparchio	Винт-барашек	Pevavare (ya da keldibok)	2
2	Tapa cuerpo de bomba	Pump lid	Couvercle	Deckel	Coperchio	Крышка корпуса насоса	Pompa gövdəsi kapagı	1
3	Junta tapa	Pump lid O-ring	Joint de couvercle	Drechsel O-Ring	Guarnizione o ring coparchio	Прокладка крышки	Kapak contasi	1
4	Asa filtro	Handle	Poignée prefiltre	Filtergriff	Mangiafilo	Ручка фильтра	Filtre səpi	1
5	Cestillo filtro	Filter basket	Panier prefiltre	Filterkorb	Cestello	Корзина фильтра	Filtre səpi	1
6	Bujón de palomilla	Pin	Axe vis papillon	Gewindestift	Perno	Штифт	Pevavare cavatasi	2
7	Tapón vaciado	Drain plug	Bouchon vidange	Abdichtschraube	Tappo svuotamento	Прокладка сливного отверстия	Bosqalmı tıpası	2
8	Junta tapón	O-ring	Joint	Slopes O-ring	Guarnizione o ring tappo	Прокладка пробы	Tıpa contasi	2
10	Cuerpo bomba	Pump casing	Corps de pompe	Pumpengehäuse	Corpo pompa	Корпус насоса	Pompa gövdəsi	1
11	Cuerpo difusor	Diffuser gasket	Joint diffuseur	Dichtung	Guarnizione diffusore	Прокладка диффузора	Difuzor contasi	1
12	Difusor	Diffuser	Diffuseur	Lelapparat	Diffusore	Диффузор	Difuzor	1
13	Turbina	Impeller	Turbine	Laufrad	Granite	Импеллер	Turbin	1
14	Releñ	Mechanical seal	Garniture Mécanique	Wellendichtung	Tenuta meccanica rotante	Статор	Mühür	1
15	Contra retñ	Seal seat	Siège de garniture mécanique	Wellendichtung	Tenuta meccanica fissa	Плечо статора	Mühür contasi	1
16	Junta cuerpo de unión	Flange O-ring	Joint bride de raccordement	Flansch O-ring	Guarnizione o flangia	Прокладка фланца	Bileşim gövdəsi contasi	1
17	Cuerpo unión	Flange	Bride de raccordement	Flansch	Flangia	Фланец	Bileşim gövdəsi	1
18	Soporte	Motor-pump support	Socle	Sockelle	Base appoggio pompa	Опора	Destek	1
24	Junta record enfase	Union set O-ring	Joint ensemble raccord	Gesamtschluß O-ring	O ring insieme collegamento	прокладка-кольцо муфты насоса	Rotor conta bağlaması	2
25	Conjunto record enfase	Union set	ensemble raccord	Gesamtschluß	Insieme collegamento	муфта насоса	Rotor takım bağlaması	2
26	Tornillo cuerpo de unión	Screw	Vis bride de raccordement	Sechskantschraube	Vite flangia	фланцевый болт	Bileşim gövdəsi vidası	4
22	Tapar motor lado accionamiento	Motor cover/Pump side	Couvercle du moteur-Côté commande	Motorhaulingung	Calotta motore - lato pompa	Крышка двигателя со стороны насоса	Motorun sarıcu taraf kapagı	1
23	Tornillo tapa motor	Screw	Vis de couvercle du moteur	Sechskantschraube	Vite calotta motore	Болт крышки двигателя	Motor kapagı vidası	4
27	Tirante cierre motor	Tie rod	Tirant de fermeture du moteur	Zugstange	Trante chiusura motore	Стержень затвора двигателя	Motor kapanma kordonu	4
28	Rotor	Rotor shaft	Rotor	Läuervelle	Rotore	Ротор	Rotor	1
29	Esator	Casing with stator	Carcasse avec le stator	Statorgehäuse	Statore	Статор	Stator	1
30	Prensastopas	Stuffing piece	Presse-étoupe	Stoppfluche	Passacavo	Сальник	Salmasta	2
31	Tornillo soporte	Screw	Vis fixation socle	Sechskantschraube	Vite base appoggio	Опорный болт	Destek vidası	2
32	Tapar motor lado ventilador	Motor cover/Fan side	Couvercle du moteur-Côté ventilateur	Motorabdeckung - ventilatorseitig	Calotta motore - lato ventola	Крышка двигателя со стороны вентилятора	Motorun havalandırma taraf kapagı	1
34	Ventilador	Fan	Ventilateur	Ventilator	Ventola	Вентилятор	Fan (havalandırma)	1
35	Tapar ventilador	Fan cover	Couvercle ventilateur	Ventilatorabdeckung	Copri ventola	Крышка вентилятора	Fan kapagı	1
36	Placa de características	Characteristics card	Plaque de caractéristiques	Motorplattenschild	Targhetta caratteristiche	Табличка параметров	Ozellikler plakası	1
37	Tapar caja conexiones	Board cover	Couvercle des connexions	Anschlußkastendeckel	Rondella - lato ventola	Крышка распределительной коробки	Bağlantı kutusu kapagı	1
38	Arandado lado ventilador	Washer-Fan side	Rondelle-côté ventilateur	Unterlagscheibe - ventilatorseitig	Rondella - lato ventola	Шайба со стороны вентилятора	Havalandırma tarafı rondelas	1
39	Rodamiento lado ventilador	Bearing-Fan side	Roulement-Côté ventilateur	Lager - ventilatorseitig	Cuscinetto a sfere - lato ventola	Подшипник со стороны вентилятора	Havalandırma tarafı rulmanlar	1
40	Regleta conexiones	Board	Régllette de connexions	Anschlußleitmittlele	Morselliera	Консоль подключения	Bağlantı terminalı	1
42	Condensador	Capacitor	Condensateur	Kondensator	Cuscinetto a sfere - lato pompa	Конденсатор	Kondensatör	1
43	Rodamiento lado accionamiento	Bearing-Pump side	Roulement-Côté commande	Lager-antriebsseitig	Cuscinetto a sfere - lato pompa	Подшипник со стороны насоса	Sarıcu tarafı rulmanlar	1
44	Paraguero	Drops guard	Paragouttes	Tropfenhalter	Paragocce	Защита от проливания	Damlık	1

**CARACTERISTICAS Y DIMENSIONES /  
CHARACTERISTICS AND DIMENSIONS / CARACTERISTIQUES ET DIMENSIONS /  
KENNZEICHEN UND MASSEN / CARATTERISTICHE E DIMENSIONI /  
ХАРАКТЕРИСТИКИ И ГАБАРИТЫ / TEKNİK BELİRLEMELER VE ÖLÇÜLER**

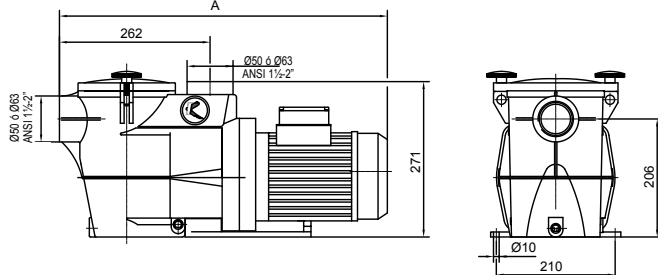
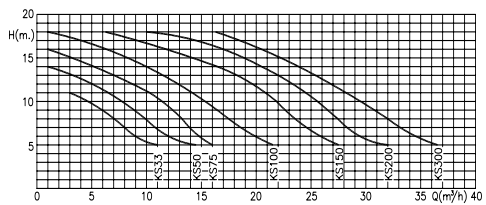
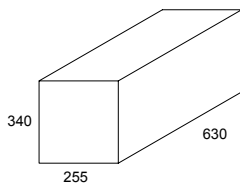
TIPO TYPE ТИП	HP P2	KW P1	dB (*)	Altura en m. / Head in m. / Haut en m. / Höhe in m. / Altezza in m. / Высота в м. / Мбы								
				4	6	8	10	11	12	14	16	18
				Caudal / Capacity / Debit / Leistung / Capacità / Поток / Debi (m³/h - ч)								
KS 33B KS 36B	0,33	0,45	54,6	11	8,9	7	4,8	3	--	--	--	--
KS 50B KS 56B	0,50	0,58	59,6	14,5	12	10	7,5	6,5	5	1	--	--
KS 75B KS 76B	0,75	0,75	59,6	16	14,5	13,5	11,5	10,2	8,9	5,2	1	--
KS 100B KS 106B	1,00	1,00	60,8	21,5	19,5	17,5	15,4	14,2	13	10	5,8	1
KS 150B KS 156B	1,50	1,60	65,6	27,5	25,5	23	21,9	20,8	19,7	16,4	11,8	6,2
KS 200B KS 206B	2,00	1,92	66	32	29,4	27,8	25,7	24,6	23,5	20,5	17	12
KS 300B KS 306B	3,00	2,60	66,7	36,5	34,5	32	29,5	28,2	26,9	23,9	20	16,2

(\*) : dB=10 m.c.a/hauteur/Höhe

TIPO TYPE ТИП	HP P2	KW P1	Hz	MONOF. Single-phase Однофазный			TRIF. Three-phase Трёхфазный	
				V	A	COND.	V	A
				KS 33B KS 36B	0,33	0,45	50 60	230
KS 50B KS 56B	0,50	0,58	50 60	230	3,2	14	230/400	2,4-1,4
KS 75B KS 76B	0,75	0,75	50 60	230	4	14/16	230/400	3,4-2,05
KS 100B KS 106B	1,00	1,00	50 60	230	5	20	230/400	3,6-2,2
KS 150B KS 156B	1,50	1,60	50 60	230	7,5	25	230/400	5,0-2,9
KS 200B KS 206B	2,00	1,92	50 60	230	9	30	230/400	6,1-3,5
KS 300B KS 306B	3,00	2,60	50 60	230	12,5	40	230/400	8,3-4,8

TIPO TYPE ТИП	A (mm)		PESO / WEIGHT BEC / AGIRLIK (Kg / kr)	
	MONOF. Однофаз	TRIF. Трёхфаз	MONOF. Однофаз	TRIF. Трёхфаз
	KS 33B KS 36B	503	-	11,2
KS 50B KS 56B	550	550	12,5	12,0
KS 75B KS 76B	550	550	13,5	13,0
KS 100B KS 106B	550	550	14,0	13,5
KS 150B KS 156B	580	580	16,5	16,0
KS 200B KS 206B	580	580	17,5	17,0
KS 300B KS 306B	620	620	22,5	22,0

P1: Potencia absorbida / Power input / Puissance absorbée / Leistungaufnahme / Potenza assorbita / Потребляемая мощность / Gücü absorbe  
P2: Potencia nominal / Power output / Puissance du moteur / Wirkleistung / Potenza nominale / Мощность / Nominal güç









**Declaración de conformidad**

**GRUPO KRIPSOL**, declara bajo su responsabilidad que sus productos **KS** cumplen con la Directiva CE 2006/42, 20004/108, 2006/95 y siguientes modificaciones

**Declaration of conformity**

We, **GRUPO KRIPSOL**, declare under our own responsibility that our products **KS** comply with the Directive 2006/42, 20004/108, 2006/95 and following modifications

**Déclaration de conformité**

**GRUPO KRIPSOL**, déclare sous sa responsabilité que les produits **KS** sont conformes à la Directive 2006/42, 20004/108, 2006/95 et modifications suivantes

**Konformitätserklärung**

Die Firma **GRUPO KRIPSOL**, erklärt unter ihrer vollen Verantwortlichkeit, daß die Produkte **KS** den Richtlinien 2006/42, 20004/108, 2006/95, und späteren Änderungen, entsprechen

**Dichiarazione di conformità**

Noi, **GRUPO KRIPSOL**, dichiariamo sotto la Ns. sola responsabilità che nostri prodotti **KS** sono in conformità alla direttiva 2006/42, 20004/108, 2006/95 e successive modifiche

**Декларация соответствия**

Компания **GRUPO KRIPSOL**, заявляет под свою ответственность, что её продукты линии **KS** отвечают требованиям Директивы Совета ЕС 2006/42, 20004/108, 2006/95 и её последующим модификациям

**Uygunluk Beyanı**

**GRUPO KRIPSOL** kendi sorumluluğunda, **KS** ürünlerinin CE 2006/42/CE, 2004/108/CE ve 2006/95/CE Direktiflerine ve aşağıdaki modifikasyonlara uygun olduğunu beyan eder.

PRODUCTO  
PRODUCT  
PRODUIT  
PRODUKT  
PRODOTTO  
ПРОДУКТ  
ÜRÜN



Miguel García  
Director Gerente

Ugena, 17 de enero de 2013



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