

Elettropompe sommerse  
Electro submersible pumps  
Unterwassermotor-Pumpen  
Electropompes immergées  
Electro bombas sumergibles  
Elektriska dränkbara pumpar  
Elektrisch aangedreven onderwaterpompen  
Υποβρύχιες ηλεκτραντλίες  
Погружные насосы  
潜水电泵

# SD, SDX, SDS

**ISTRUZIONI ORIGINALI PER L'USO**  
**OPERATING INSTRUCTIONS**  
**BETRIEBSANLEITUNG**  
**INSTRUCTIONS POUR L'UTILISATION**  
**INSTRUCCIONES DE USO**  
**DRIFT/INSTALLATIONSANVISNINGAR**  
**BEDIENINGSVOORSCHRIFT**  
**ΟΔΗΓΙΕΣ ΧΕΙΡΙΣΜΟΥ**  
**Инструкции по эксплуатации**  
**安装使用手册**

Pagina	2	Italiano
Page	8	English
Seite	14	Deutsch
Page	20	Français
Página	26	Español
Sidan	32	Svenska
Pagina	38	Nederlands
Σελίδα	44	Ελληνικά
Стр.	50	Русский
页码	56	中文



 **calpeda**<sup>®</sup>

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## SUMMARY

1. GENERAL INFORMATION .....	8
2. TECHNICAL DESCRIPTION .....	8
3. TECHNICAL FEATURES .....	9
4. SAFETY .....	9
5. TRANSPORTATION AND HANDLING .....	9
6. INSTALLATION .....	9
7. STARTUP AND OPERATION .....	11
8. MAINTENANCE .....	11
9. DISPOSAL .....	12
10. SPARE PARTS .....	12
11. DESIGNATION OF PARTS .....	12
12. TROUBLESHOOTING .....	13
Drawing for dismantling and assembly .....	62
Declaration of conformity .....	71

## 1. GENERAL INFORMATION

Before using the product carefully read the information contained in this instruction manual, the manual should be kept for future reference.

Italian is the original language of this instruction manual, this language is the reference language in case of discrepancies in the translations.

This manual is part of the essential safety requirement and must be retained until the product is finally decommissioned.

The customer, in case of loss, can request a copy of the manual by contacting Calpeda S.p.A. or their agent, specifying the type of product data shown on the label of the machine (see 2.3 Marking)

Any changes, alterations or modifications made to the product or part of it, not authorized by the manufacturer, will revoke the "CE declaration" and warranty.

This appliance should not be operated by children younger than 8 years, people with reduced physical, sensory or mental capacities, or inexperienced people who are not familiar with the product, unless they are given close supervision or instructions on how to use it safely and are made aware by a responsible person of the dangers its use might entail.

Children must not play with the appliance.

It is the user's responsibility to clean and maintain the appliance. Children should never clean or maintain it unless they are given supervision.

Do not use in ponds, tanks or swimming pools or where people may enter or come into contact with the water.

Read carefully the installation section which sets forth:

- The maximum permissible structural working pressure (chapter 3.1).
- The type and section of the power cable (chapter 6.5).
- The type of electrical protection to be installed (chapter 6.5).

### 1.1. Symbols

To improve the understanding of the manual, below are indicated the symbols used with the related meaning.



Information and warnings that must be observed, otherwise there is a risk that the machine could damage or compromise personnel safety.



The failure to observe electrical information and warnings, could damage the machine or compromise personnel safety.



Notes and warnings for the correct management of the machine and its parts.



Operations that could be performed by the final user. After carefully reading of the instructions, is responsible for maintenance under normal conditions. They are authorized to affect standard maintenance operations.



Operations that must be performed by a qualified electrician. Specialized technician authorised to affect all electrical operations including maintenance. They are able to operate with in the presence of high voltages.



Operations that must be done performed by a qualified technician. Specialized technician able to install the device, under normal conditions, working during "maintenance", and allowed to do electrical and mechanical interventions for maintenance. They must be capable of executing simple electrical and mechanical operations related to the maintenance of the device.



Indicates that it is mandatory to use individual protection devices.



Operations that must be done with the device switched off and disconnected from the power supply.




Operations that must be done with the device switched on.

## 1.2. Manufacturer name and address

Manufacturer name: Calpeda S.p.A.  
Address: Via Roggia di Mezzo, 39  
36050 Montorso Vicentino - Vicenza / Italia  
www.calpeda.it


## 1.3. Authorized operators

The product is intended for use by expert operators divided into end users and specialized technicians. (see the symbols above).

 It's forbidden, for the end user, carry out operations which must be done only by specialized technicians. The manufacturer declines any liability for damage related to the non-compliance of this warning.

## 1.4. Warranty

For the product warranty refer to the general terms and conditions of sale.

 The warranty covers only the replacement and the repair of the defective parts of the goods (recognized by the manufacturer).

The Warranty will not be considered in the following cases:

- Whenever the use of the device does not conform to the instructions and information described in this manual.
- In case of changes or variations made without authorization of the manufacturer.
- In case of technical interventions executed by a non-authorized personnel.
- In case of failing to carry out adequate maintenance.

## 1.5. Technical assistance

Any further information about the documentation, technical assistance and spare parts, shall be requested from: Calpeda S.p.A. (paragraph 1.2).

## 2. TECHNICAL DESCRIPTION

Submersible borehole pumps for 4" wells (DN 100 mm), 6" wells (DN 150 mm), 8" (DN 200 mm) and 10" (DN 250 mm).


Delivery casing with built-in non-return valve.

### 2.1. Intended use

- For clean or slightly dirty water with maximum sand content: 150 g/m<sup>3</sup> (50 g/m<sup>3</sup> for SDX), (300 g/m<sup>3</sup> for HIGH SAND versions).
- Water temperature up to 25 °C (35 °C for 4").

### 2.2. Improper use

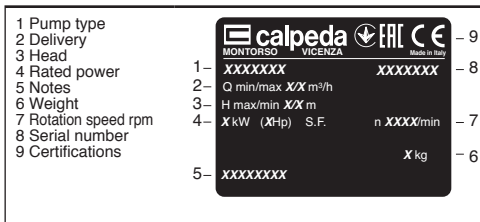
The device is designed and built only for the purpose described in paragraph 2.1.

 Improper use of the device is forbidden, as is use under conditions other than those indicated in these instructions.

Improper use of the product reduces the safety and the efficiency of the device, Calpeda shall not be responsible for failure or accident due to improper use.

### 2.3. Marking

The following picture is a copy of the name-plate (see Pic.1) that is on the external case of the pump.



## 3. TECHNICAL FEATURES

### 3.1. Technical data

Dimensions and weight (see technical catalogue).

Nominal speed 2900/3450 rpm

Supply voltage / Frequency (see data on the engine indicator plate).


Maximum permissible working pressure:

SD, SDN, SDF	400 m (40 bar)
SDS	500 m (50 bar)
SDX	700 m (70 bar)

Max. starts per hour: (see instruction motor).

## 4. SAFETY

### 4.1. General provisions


 Before using the product it is necessary to know all the safety indications.

Carefully read all operating instructions and the indications defined for the different steps: from transportation to disposal.


The specialized technicians must carefully comply with all applicable standards and laws, including local regulations of the country where the pump is sold.

The device has been built in conformity with the current safety laws. The improper use could damage people, animals and objects.


The manufacturer declines any liability in the event of damage due to improper use or use under conditions other than those indicated on the name-plate and in these instructions.

 Follow the routine maintenance schedules and the promptly replace damaged parts, this will allow the device to work in the best conditions.

Use only original spare parts provided from Calpeda S.p.A or from an authorized distributor.

 Don't remove or change the labels placed on the device.

Do not start the device in case of defects or damaged parts.

 Maintenance operations, requiring full or partial disassembly of the device, must be done only after disconnection from the supply.

### 4.2. Safety devices

The device has an external case that prevents any contact with internal parts.

### 4.3. Residual risks

The appliance, designed for use, when used in-line with the design and safety rules, doesn't have

residual risks.

#### 4.4. Information and Safety signals

For this kind of product there will not be any signals on the product.

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#### 4.5. Individual protection devices

During installation, starting and maintenance it is suggested to the authorized operators to consider the use of individual protection devices suitable for described activities.

During ordinary and extraordinary maintenance interventions, where it is required to remove the filter, safety gloves are required.

Signal individual protection device  
**HAND PROTECTION**



(gloves for protection against chemical, thermal and mechanical risks).

#### 5. TRANSPORTATION AND HANDLING

The product is packed to maintain the content intact. During transportation avoid to stack excessive weights. Ensure that during the transportation the box cannot move.

It is not necessary to use any special vehicle to transport the packaged device.

The transport vehicles must comply, for the weight and dimensions, with the chosen product (see technical catalogue dimensions and weights).

##### 5.1. Handling

Handle with care, the packages must not receive impacts.

Avoid to impact onto the package materials that could damage the pump.

If the weight exceeds 25 Kg the package must be handled by two person at the same time.

#### 6. INSTALLATION

##### 6.1. Dimensions


For the dimensions of the device refer to the annex "Dimensions" (paragraph 12.1 Annexes).

##### 6.2. Ambient requirements and installation site dimensions

The customer has to prepare the installation site in order to guarantee the right installation and in order to fulfill the device requirements (electrical supply, etc...).

It's Absolutely forbidden to install the machine in an environment with potentially explosive atmosphere.

##### 6.3. Unpacking

 Inspect the device in order to check any damages which may have occurred during transportation.

Package material, once removed, must be discarded/ recycled according to local laws of the destination country.

##### 6.4. Installation

Along its entire length the well diameter must be wide enough to allow for passage of the pump with clearance all round.

###### 6.4.1. Pipes

When threaded connections are used, delivery pipes must be tightened to avoid any risk of the pump

falling into the well owing to unscrews.

It is advisable to connect the **metal pipes** to the threaded joints with spot welding.

With **plastic pipes** use proper connections.

The **SD, 6SDX**-series pumps have two holes in the delivery casing for anchoring and for raising the pump.

**A safety rope or chain** of non-perishable material should always be used to secure the pump.

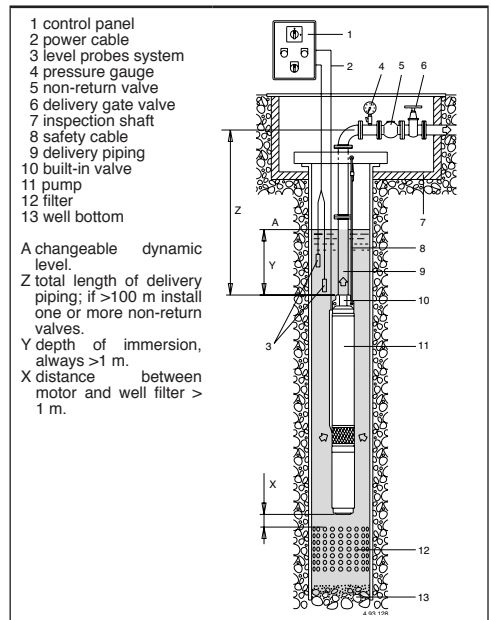
Attach the power supply cables to the delivery pipe with cable clamps placed at intervals of approx 3 m. Lower the pump into the well, making sure the feed cables are not damaged in any way during the operation.



**Never use the electric power cable to suspend the pump.**

When the pump is operating, the delivery connection must be submersed at least 1 m below the deepest dynamic level of the well; for this purpose, it is advisable to install an automatic control system which will stop operating of the pump when the level of the water falls below this limit.

Position the pump at a distance from the bottom of the well which will be sufficient to avoid accumulation of sand or mud around the motor and to eliminate the risk of overheating.



##### 6.4.2. Delivery pipe

The following components must be installed in the delivery pipe:

- a pressure gauge;
- a check valve at max. 7 m from the pump outlet and more lift-type **check valves** (5), depending on the type of installation (at least one every 50 m in the straight vertical pipe above the pump), to provide protection against water hammering;
- a **gate valve** to regulate delivery, head and absorbed power.

### 6.4.3. Installed in the horizontal position

- if the submersible pump is to be installed in the horizontal position, the following instructions must be followed:
- install the pump with its axis placed at least 0,5 m above the bottom of the sump, tank or container;
- install a supplementary check valve, as the pump valve does not ensure a perfect seal in the horizontal position;
- the plant must allow for easy evacuation of the air when starting.

### 6.4.4. Motor cooling

If the well (or tank) has a diameter which is considerably greater than the pump width, it is necessary to install a cooling flow shroud (a flow inducer sleeve), that is an external jacket to ensure a sufficient flow and water velocity to cool the motor (see instruction motor).

### 6.4.5. Assembly of the pumps

The pumps are normally supplied with motor and pump disconnected (except 4SD already assembled).



1 Connect the coupling and pump-motor suction lantern. Clean the surface to be coupled. Put the suction lantern of the pump in correspondance of the motor studs. Couple the grooved joint of the pump to the motor shaft.

Screw in the nuts to the suction lantern, then fix them crosswise starting from the one opposed to the cable as shown in the figure below. The torque recommended is 10Nm (for 4" motors).

Attach the cable to the pump with the cable guard and place the filter on the suction lantern.

Follow separate operating instructions (if available) of the motor.

## 6.5. Electrical connection



Electrical connection must be carried out only by a qualified electrician in accordance with local regulations. Follow safety standards.

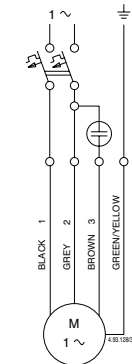
**The unit must be properly earthed (grounded), also with a non-metallic delivery pipe.**

Make sure the frequency and mains voltage correspond with the name plate data.

The control panel must contain:

- a device for disconnection from the mains (switch) with a contact separation of at least 3 mm in all poles;
- an adequate motor protector with curve D for the current indicated on the name-plate;
- a capacitor for the SDM single-phase pumps, in accordance with the data indicated on the motors themselves.

For use in swimming pools (not when persons are in the pool), garden ponds and similar places, a residual current device with IΔN not exceeding 30 mA must be



Electrical diagram  
single-phase motors

installed in the supply circuit.

For pumps with power rating above 11 kW, it is advisable to provide the control panel with Y/ Δ or impedance starting.

Install electrodes to protect the pump against dry running.

### 6.5.1. Connection of cables

Feed cables have to be chosen on the basis of power, distance, voltage drop and temperature.

For connection of cables in the well, use thermo-shrinking insulation sheathes or other systems used for submerged cables.

Before lowering the motor into the well, use appropriate instruments to measure continuity between phases and perform an isolation test between each single phase and the earth conductor.

### 6.5.2. Operation with frequency converter

Adjust the frequency converter so that the limiting values of min. 30 Hz and max. 60 Hz will not be exceeded.

The maximum running up time from 0 to 30 Hz and running down time from 30 to 0 Hz for frequency-converter operation is 1 second.

## 7. STARTUP AND OPERATION

### 7.1. Preliminary checks before start-up of the pump

Do not start-up the device in case of damaged parts.

### 7.2. First starting



**ATTENTION: never run the pump dry, not even for a short trial run.**

**Start the pump with the gate valve regulated to minimum aperture** and wait until the delivery pipe is completely free of air.

**With a three-phase motor make sure the direction of rotation is correct.**

For this purpose, with the gate valve at half-open aperture position, check the pressure (with the pressure gauge) or flow rate (sight check) after starting. Switch off power, reverse the connections of two phases on the control panel, re-start and check the pressure or flow rate capacity again.

The correct direction of rotation will provide a considerably greater and easily distinguishable pressure and delivery capacity.

Make sure the sand residue present in the water disappears or is minimal.

**Never start or run the pump when the gate valve has been opened too widely.**

**Make sure the pump operates within its rated limits of performance and that the rated absorbed current is not exceeded.**

Otherwise, regulate the delivery gate valve or the setting of any pressure switches.

**ATTENTION: avoid long periods of operation with closed discharge.**

### 7.3. Generator supply

The switching sequence is of utmost importance. If you do not apply this correctly, both motor and

generator may be damaged.

Therefore:

- Always switch the generator on and off without load!

This means:

- Starting: always switch the generator ON first - and the motor afterwards!

- Stopping: always switch the motor OFF first - and the generator afterwards!

## 7.4. Switch off of the pump



The appliance must be switch off every time there are faults. (see troubleshooting).

The product is designed for a continuous duty, the switch off is performed by disconnecting the power supply by means the expected disconnecting devices. (see paragraph "6.5 Electrical connection").

## 8. MAINTENANCE

Before any operations it's necessary to disconnect the power supply. **Disconnect electrical power before any servicing operation.**

Maintenance operations that are not described in this manual must be made only by special personnel authorized by Calpeda S.p.A.

For further technical information regarding the use or the maintenance of the device, contact Calpeda S.p.A.

### 8.1. Routine maintenance



Absorbed current and head supplied by the pump must be checked at regular intervals.

This procedure should be carried out frequently when water contains considerable quantities of sand. In the case of emergency systems, it is advisable to operate the pumps once a month in order to avoid the risk of blocking and to maintain and verify perfect efficiency.

## 9. DISPOSAL



The final disposal of the device must be done by specialized company.

Make sure the specialized company follows the classification of the material parts for the separation. Observe the local regulations and dispose the device accordingly with the international rules for environment protection.

## 10. SPARE PARTS

### 10.1. Spare-parts request

When ordering spare parts, please quote their designation, position number in the cross section drawing and rated data from the pump name plate (type, date and serial number).

The spare parts request shall be sent to CALPEDA S.p.A. by phone, fax, e-mail.

## 11. DESIGNATION OF PARTS

Nr. Part designation

- 10.16 Gasket
- 12.01 Delivery casing
- 12.02 Bush casing
- 12.03 Bearing sleeve (stationary part)
- 12.04 Valve guide
- 12.05 Circlip
- 12.06 Valve seat
- 12.10 Valve set
- 12.12 Valve joint
- 12.16 Plug
- 12.30 Stage bearing sleeve
- 12.31 Bearing sleeve (rotating part)
- 13.12 Counterflange, delivery side
- 13.13 Flange gasket, delivery side
- 13.16 Screw
- 14.02 External jacket
- 14.54 Wear ring
- 15.20 Screw
- 15.50 Strainer
- 25.02 Stage casing
- 25.04 Gasket
- 25.06 Screw
- 26.00 Diffuser (pump)
- 26.02 Diffuser plate
- 26.08 Diffuser sleeve
- 26.10 Conveyor ring
- 28.00 Impeller
- 28.02 Counter thrust bearing ring
- 28.04 Impeller nut (or screw)
- 28.05 Circlip
- 28.07 Washer
- 28.08 Washer
- 28.20 Impeller key
- 28.24 Locking sleeve
- 32.02 Suction lantern
- 34.02 Upper cover
- 46.50 Sand guard
- 64.00 Pump shaft
- 64.08 Shaft sleeve
- 64.10 Bearing sleeve
- 64.13 Upper spacer sleeve
- 64.14 Lower spacer sleeve
- 64.15 Intermediate spacer sleeve
- 64.18 Spacer sleeve
- 64.19 Spacer sleeve
- 64.20 Key for shaft end
- 64.21 Coupling
- 64.22 Coupling, set
- 64.23 Washer
- 64.24 Shear pin
- 64.25 Screw
- 64.26 Adapter thickness
- 70.13 Washer
- 70.19 Nut
- 70.20 Screw
- 96.00 Cable
- 96.04 Cable guard
- 96.08 Clamp
- 96.09 Screw
- 99.00 Complete motor

Changes reserved.



## 12. TROUBLESHOOTING



**WARNING:** Turn off the power supply before performing any operations.

Do not allow the pump or motor to run when dry even for a short period

Strictly follow the user instructions and if necessary contact an authorised service centre

PROBLEM	PROBABLE CAUSES	POSSIBLE REMEDIES
1) The motor does not start	1a) Unsuitable power supply 1b) Incorrect electrical connections 1c) Engine overload protective device cuts in. 1d) Blown or defective fuses 1e) Shaft blocked 1f) If the above causes have already been checked, the motor may be malfunctioning	1a) Check that the mains frequency and voltage correspond to the electrical characteristics shown on the indicator plate. Make sure that the cross section of the cable is compatible with the length of cable and with the motor power. 1b) Check that the power cable is correctly connected with the control panel. 1c) Check that the thermal overload protection is set correctly (see data on the motor name-plate) and make sure that the fuseboard upline of the motor has been properly connected. Check that the isolation of the motor with the cable is inside the values indicated in the instruction manual. See also 1a) 1d) Replace the fuses, check the electric power supply and points a) and c) 1e) Extract the pump, remove and clean the suction filter check that motor and pump turn freely. If the rotation of the pump and/or the motor is prevented, contact an authorised service centre. 1f) Repair or replace the motor by contacting an authorised service centre
2) The pump functions but no water comes out	2a) Check that the valves are open and not blocked 2b) Delivery casing obstructed or check-valve blocked 2c) Suction valve closed 2d) Pump suction filter obstructed 2e) Pump installed above the surface of the liquid (dry functioning) 2f) Direction of rotation incorrect	2a) Dismantle the check valve on the delivery pipe and release the valve, if necessary replace it. 2b) Extract the pump and, if necessary, contact an authorised service centre to replace the check valve. 2c) Open the suction valve 2d) Extract the pump, remove and clean the suction filter and if necessary replace it. 2e) Increase the depth of installation of the pump as far as compatible with pump performance. Do the same if the problem is due to a lowering of the water table 2f) Invert the electrical connections from the motor to the power supply terminal
3) Insufficient flow	3a) Pipes and accessories with diameter too small causing excessive loss of head 3b) Presence of deposits or solid bodies in the internal passages of the rotor and/or in the diffusers 3c) Delivery valve or check valve on the delivery pipe obstructed by solid bodies. 3d) Pump check valves obstructed by solid bodies 3e) Rotors deteriorated 3f) Worn rotors and diffusers 3g) Excessive lowering of the dynamic level of the well 3h) Incorrect direction of rotation 3i) Leaking from delivery pipe 3j) Presence of dissolved gases in the water	3a) Use pipes and accessories suitable for the specific application 3b) Extract the pump and contact an authorised service centre. 3c) Dismantle the valve and the check valve and clean them. 3d) Extract the pump and clean the check valve, if necessary, contact an authorised service centre. Clean the suction filter. 3e) To replace the rotors contact an authorised service centre 3f) Contact an authorised service centre to replace the rotors and the sealing rings of the diffusers, or diffusers themselves if worn 3g) Increase the depth of immersion of the pump as far as compatible with pump characteristics, reduce the flow requested by narrowing the suction valve. Pump too big for the dynamic level of the well 3h) See 2e) 3i) Locate the points in which the delivery pipe is leaking, if located in the vertical section of the well, extract the pump and repair the pipe as needed. 3j) Contact an authorised service centre.
4) Noise and vibrations from the pump	5a) Rotating part unbalanced 5b) Impellers that slides on the diffusers 5c) Pump and pipes not firmly attached 5d) Flow too strong for the diameter of the delivery pipe 5e) Unbalanced power supply	5a) Check that no solid bodies are obstructing the rotor. Contact an authorised service centre to check the pump shaft sleeves conditions. 5b) If the thrust bearing of the motor and/or the pump shaft sleeves are worn, contact an authorised service centre. 5c) Anchor the delivery and suction piping as needed 5d) Use bigger diameters or reduce the pump flow 5e) Check that the mains voltage is correct
5) The pump starts and stops repeatedly	5a) Pump with excessive flow 5b) Repeated interventions of the thermal protection 5c) Leakages on the system	5a) Partially close the delivery valve to reduce flow. The pump may be oversized compared with the dynamic level of the well. 5b) Measure the current absorption. If necessary, properly calibrated overload protection. Remove the pump and make sure the pump shaft or the motor shaft turn freely. See also the case 1e). 5c) Check the leakage of the system and seal or replace the leaking parts.

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## 摘要

1. 总则.....	56
2. 技术说明.....	57
3. 技术特性.....	57
4. 安全性.....	57
5. 搬运操作.....	58
6. 安装.....	58
7. 启动和运行.....	59
8. 维修.....	60
9. 处理.....	60
10. 备件.....	60
11. 备件名称.....	60
12. 常见故障和解决方法.....	61
组装与分解图.....	62
声明.....	71

## 1. 总则

中文

使用本产品前请仔细阅读此操作手册的内容，并保留此操作手册以供参考。

此操作手册为意大利语，如有翻译偏差以意大利语为准。

此操作手册是安全保障必不可少的一部分，在产品最终达到正常工作前请牢记本手册。

万一用户不慎遗失本手册，可以向CALPEDA S.P.A.或其代理商要求一份复印件，请详述产品铭牌上的资料（见2.3 标记）

未经制造商认可的有关其产品或部件的任何更改变化，将撤消“CE 声明”和质保。

此产品不应让8岁以下的未成年、身体有缺陷、心智不全或无任何经验的人操作，除非在充分的指导或监督下让相关人员知道如何安全的使用，并且通过一个负责人来让相关人员了解到可能会产生的危险。

不得让儿童接触本产品。

用户有义务清洁和维护本产品。除非在有人监督的情况下，否则儿童不应清洁和维护本产品。

不要使用在池塘、水箱或泳池等人为可以进入或接触的水环境中。

仔细阅读安装部分的规定：

-最大允许的结构工作压力详见3.1

-电源线的类型及剖面详见6.5

-所安装电器设备的防护类型详见6.5

## 1.1. 符号标记

为了便于理解本操作手册，下面给出常用标记符号的含义。



一定要注意通告和警告的标记，否则可能导致产品损坏或人身安全的风险。



忽略有关电气的警告，可能导致产品损坏或人身安全的风险



提示和警告正确操作处理产品及其部件



最终用户可以进行的操作

终端用户：仔细阅读本操作手册后，产品使用者可以负责正常状态下的维护工作。他们可以进行产品的清洁和长期停滞后的重新启动此类标准维护工作。



必须由有资格的专业电工才能进行的操作

专业电工：有资格的专业电工，负责所有电气设备的运行包括维护，应具有高压电资格。



必须由有专业技术资格的人才能进行的操作

专业技术人员：正常状态下，具有产品安装和维护能力的专业技术人员，可以从事电气和机械方面的维护工作。能够从事简单的与设备维护相关的电气和机械方面的操作。



指示必须使用个别的保护装置



必须关断电源并断开与电源的连接才能进行的操作



必须接通电源才能进行的操作

## 1.2. 制造商名称和地址

制造商名称：CALPEDA S.P.A.

地址：Via Roggia di Mezzo, 39

36050 Montorso Vicentino - Vicenza / Italia

www.calpeda.it

## 1.3. 授权操作者

本产品只能由有经验的终端用户和专业技术人员操作



禁止终端用户操作那些只能由专业技术人员操作的工作，对未按本规章执行而引起的损害制造商不负任何责任



## 1.4. 质保

质保参见总则和销售条款

 质保期内将更换或维修有问题的产品部件（由制造商验证的）。

下面因素不在质保范围：

- 由于产品使用者没有按照说明及本手册的通告信息操作造成的损坏
- 未经制造商认可的对产品的任何改变而造成的损坏
- 由非专业人员操作造成的损坏
- 由不当的维修造成的损坏

## 1.5. 技术支持

任何技术支持、备件及更多的产品信息均可联系：Calpeda S.p.A. (附件1.2章)。

## 2. 技术说明

潜水深井泵适用于4” 井 (DN 100 mm), 6” 井(DN 150 mm), 8” 井(DN 200 mm)和10” 井(DN 250 mm)。

出口壳体内置止回阀。


### 2.1. 预期用途

标准使用条件如下：

- 用于泵送清水或轻度污水，其含沙量不高于 100克/立方米,(50克/立方米), (300克/立方米 HIGH SAND)。
- 水温不高于25°C (35 °C for 4”).

### 2.2. 不当使用

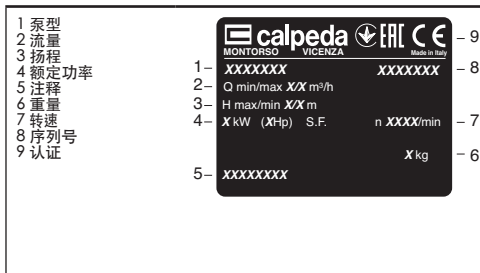
本产品只用于2.1中所述用途

 除了本说明手册中指示的用途外,严禁其他不当用途

不当使用将降低本产品的安全性和效率,由于不当使用而造成的损坏和意外,CALPEDA不承担责任

## 2.3. 标记

下面给出的是泵外壳上的牌板的图片 (见 图)



## 3. 技术特性

### 3.1. 技术参数

尺寸和重量 (详见产品样本)

额定转速 2900/3450rpm

电压/频率 (详见电机名牌数据)


最大允许工作压力：

SD,SDN,SDF	400 m (40 bar)
SDS	500 m (50 bar)
SDX	700 m (70 bar)

-每小时最多重复启动次数:(详见电机说明)


## 4. 安全性


### 4.1. 总则


 使用本产品前应了解有关安全的指示  
仔细阅读所有的操作说明和从搬运到处理的  
每一步指示专业技术人员必须认真遵从所有的  
适用标准和法律，包括产品应用地当地的  
规章

产品安装使用应符合现行的安全法规

不当的使用可能会对人身、动物和其他对象造成损害  
制造商对由于不当使用或未按本操作手册和牌板的标  
示使用所造成的损坏不负责任

 按照日程维护计划表操作并及时更换损坏的部  
件可使产品工作在最佳状态  
使用CALPEDA S.P.A或其指定代理商提供的  
原厂配件

 不要撕下或改变产品上的标识  
当产品有问题或部件有损坏的情况下不要启  
动产品

 由于维修时会全部或部分的拆开产品,因此之  
前务必断开供电电源

### 4.2. 安全装置

本产品具有全外部壳体,可防止与内部部件的任何接  
触

### 4.3. 剩余风险

当按照本产品的的设计功能和所有安全规则使用本产品  
时没有剩余风险

### 4.4. 通告和安全预示

没有任何安全预示在此类产品上面

## 4.5. 个别的保护装置

在安装、使用和维修期间，建议操作人员使用适合此操作的个别保护装置或手段

当进行日常或个别的维修工作时，拆过滤器时应带手套

标示的个别保护装置



手的保护

(防火、化学品和机械损害的手套)

## 5. 搬运操作

货物应包装完好

运输过程中应避免超重，并确保货物不会移动。确保运输车辆和所运货物尺寸相符合

无需特殊车辆运输

运输车辆应与被运货物的尺寸重量相符合(尺寸和重量详见产品样本)。

### 5.1. 搬运

小心搬运，轻拿轻放

避免冲撞包装材料以免损坏泵的外套

对于重量超过25公斤的包装物需由两人同时搬抬

## 6. 安装

### 6.1. 尺寸

设备的外形尺寸 (详见产品样本)

### 6.2. 环境要求和安装位置的尺寸

客户应将本产品妥当的安装于适当位置以满足设备的要求 (供电需要等)

禁止将产品安装于有潜在易燃易爆危险的环境中

### 6.3. 拆箱



开箱检查产品是否因运输而损坏

拆开的包装材料应根据产品使用国当地的法律规定遗弃或再利用

### 6.4. 安装

在井的整个深度上，井的直径应足够大，以便本泵的通过，并在四周有足够的空间。

#### 6.4.1. 管道

当泵的接口为螺纹联接时，出水管道必须拧紧，以免因未拧紧而导致泵落入井内。

建议用点焊焊接金属管与螺纹接头，当用塑料管道时，注意有适当的接头。

SD.6SDX系列泵的出水壳体有两孔用于固定系留和举升泵的绳子。

应使用材料为不易腐朽的安全绳或链子确保泵的安全。

用电缆卡子把动力电缆附着在出水管上，每3M间隔装一卡子。

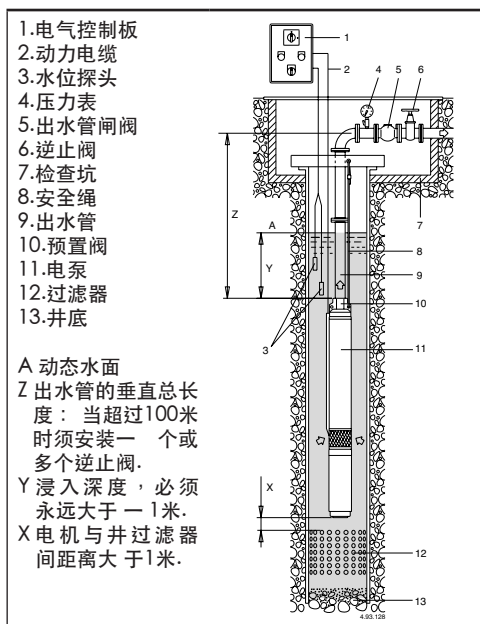
把泵放入井内，确保在运行时动力电缆在任把泵放入井内，确保在运行时动力电缆在任何情况下都不会受损。



决不允许用动力电缆来悬吊泵。

当泵在运行的时候，出水管接头浸入最低动态井水面深度不小于1米，为此，建议安一个自动控制系统，该系统在井水面降到此一极限值以下时能够自动停止泵的运行。

泵距井底应有足够的距离，以避免在电机周围堆积砂子和污泥从而引起电机过热的危险。



#### 6.4.2. 出水管

在出水管道中必须安装如下的零件

- \* 一个压力表。
- \* 一个或多个立式的逆止阀，数量取决于垂直向上管道长度(每50米长至少安一个阀)这些逆止阀用于保护泵免受水锤效应的影响。
- \* 一个阀门用来调节出水口流量，扬程及电机输出功率。

### 6.4.3. 水平安装

当潜水泵为水平安装时必须遵守如下规定:

- \* 泵的安装必须保证其轴线位于池塘, 水箱或容器底部以上至少0.5米。
- \* 安装一补充的逆止阀, 因为泵所带的阀不能确保在水平位置时良好密封。
- \* 当启动时, 本机组必须能良好的排气。

### 6.4.4. 电机的冷却

如果井的直径比泵径要大得多, 就有必要安装一个冷却水流的屏蔽罩(一种水流导向管)。这是一个外套管用来保证对电机进行冷却的水流有足够的流速和流量(详见电机说明)。

### 6.4.5. 泵的组装

深井泵供货时通常电机与泵体是分开(4SD泵例外), 组装时把联轴节及泵-电机吸入口支架对接起来。这时先把对接面清理干净, 接着把泵的吸入口支架与电机颈部相对接, 把泵的槽与电机轴相对接, 再对接法兰, 用螺母按常规紧固。



把螺母按图面所显示的方向紧固。

扭矩建议是10\Nm (4" 电机)

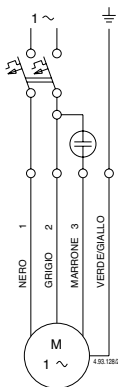
用电缆护板把电缆附着于泵, 并把过滤器放置在吸入口支架外。

必须遵守电机本身的使用说明(如果能得到使用说明的话)。

### 6.5. 电气联接



必须由合格电工根据当地规范进行电气联接。必须遵守安全标准。



泵-电机组必须可靠地接地其出水管必须为非金属管, 确保其出水管必须为非金属管, 确保所接电源频率及电压与铭牌所示相一致。

电气控制板必须包括如下内容:

- \* 电源断路器, 各极之间的间隙不小于3mm。
- \* 电机保护器, 其保护电流值较铭牌所示有一定裕度。
- \* 根据电机所示的数值, 为SDM单相电机提供一个电容。

作为用于游泳池, 花园池塘的泵, 必须在电源线路中安装漏电保护器, 其灵敏度不大于30毫安。

对于额定功率超过11KW的泵, 建议在控制板上装备有Y/ $\Delta$ (星-三角)起动机或者阻抗起动机。安装水位控制开关以保护泵免于干态运行。

### 6.5.1. 电缆联接

必须根据功率, 距离, 电压降和温度来选择动力电缆。

对于井的电缆联接, 请使用热收缩的绝缘套管或其他用于潜水电缆的联接系统。

在把电机放入井内以前, 用适当仪器来检测各相之间的连续性(即不能缺相)并进行各单相之间以及各相对地之间的绝缘性的测试。

### 6.5.2. 使用变频器的操作

使用变频器时, 应当使变频器的频率在30Hz至60Hz之间。

从0Hz升到30Hz和从30降到0Hz变频器的运行时间应在秒之内。

## 7. 启动和运行

### 7.1. 启动前的预检

当存在有故障的部件时不要启动本产品

### 7.2. 首次启动



决不要干态运行, 即使是短时间的试运行也不可以。启动泵时把闸阀关到最小, 一直到出水管把空气完全排净为止。

对于三相电机, 应确保其旋转方向的正确。

为此目的, 应把闸阀半开, 检查启动后压力表的压力及目测其流量, 切断电源, 倒换控制板上两相的接头, 再次启动并再次检查压力及流量, 正确的转向所提供的压力及流量会大得多, 因而有明显的区别。

应确保水中不存在的残余沙粒或者沙粒含量处于最低限度。

不允许在闸阀开启过大的情况下启动或运行泵。

确保泵在其性能曲线的额定范围内运行并确保电机输出电流不超过额定值。

否则, 请调整出水口的闸阀或任何压力开关的设定。

警告: 应避免在关闭出水口情况下长时间的运行。

### 7.3. 发电机供电

开关的切换顺序是极其重要的, 如果不能正确实施, 可能损坏电动机合发电机。

因此:

-永远在无负载时, 开关发电机!

具体含义是:

-启动: 先启动发电机, 而后启动电机!

-停机: 先停止电机, 而后停止发电机!

## 7.4. 泵的停车



当存在故障时必须关闭设备



本产品设计为连续工作，当希望断开本产品时可断开供电电源停机(见章节6.5 电气连接)

## 8. 维修

维修周期取决于水中存在沙子的多少。  
在任何维修操作前一定要切断电源。

本操作手册中没有介绍的维修工作只能由CALPEDA授权的特别人员来完成  
有关产品使用和维修的更多信息请联系CALPEDA S.P.A.

## 8.1. 日常维护



必须定期检查电机的工作电流及泵的扬程。  
当水中含沙量大时，这种检查更应频繁地进行。  
对于在紧急状态下才启用的泵系统，建议每月一次运行泵，以便确保不致有堵塞的危险，并确保其处于良好的有效状况。

## 9. 处理



产品的最终处理应由专业公司操作  
确保专业公司是按照材料分类方式处理  
按照当地的法规和有关环境保护的国际准则处理

## 10. 备件

### 10.1. 订购备件

订购备件时请根据剖面图提供备件的名称和位置编号及泵铭牌上的数据（型号、参数和序列号）

备件需求请电话、传真、邮件给CALPEDA S.P.A

## 11. 备件名称

Nr.	名称
10.16	垫圈
12.01	出水口壳体
12.02	衬套
12.03	轴承套（静止部分）
12.04	导流器
12.05	弹性挡圈
12.06	单流阀座
12.10	单流阀
12.12	单流阀接口
12.16	水堵
12.30	级轴承套
12.31	轴承套（转动部分）
13.12	法兰，出水口
13.13	法兰垫圈，出水口
13.16	螺钉
14.02	外壳
14.54	耐磨环
15.20	螺钉
15.50	过滤器
25.02	各级导叶
25.04	垫圈
25.06	螺钉
26.00	扩散体（水泵）
26.02	扩散体盘
26.08	扩散体套
26.10	入口环
28.00	叶轮
28.02	反向推力轴承环
28.04	叶轮锁母
28.05	弹性挡圈
28.07	垫片
28.08	垫片
28.20	叶轮键
28.24	紧固套筒
32.02	入口笼型支架
34.02	上端盖
46.50	防沙罩
64.00	水泵主轴
64.08	轴套
64.10	轴承套
64.13	上隔套
64.14	下隔套
64.15	内部隔套
64.18	隔离套
64.19	隔离套
64.20	轴端键
64.21	联轴器
64.22	联轴器组件
64.23	垫片
64.24	安全销
64.25	螺钉
64.26	调整环
70.13	垫片
70.19	螺母
70.20	螺钉
96.00	电缆
96.04	电缆护头
96.08	卡子
96.09	螺钉
99.00	电机总成

保留更改权利

## 12. 常见故障和解决方法



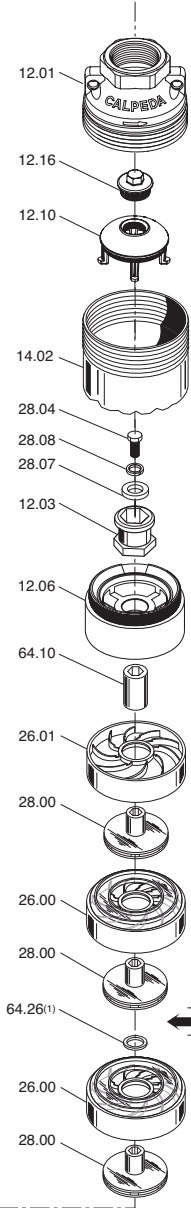
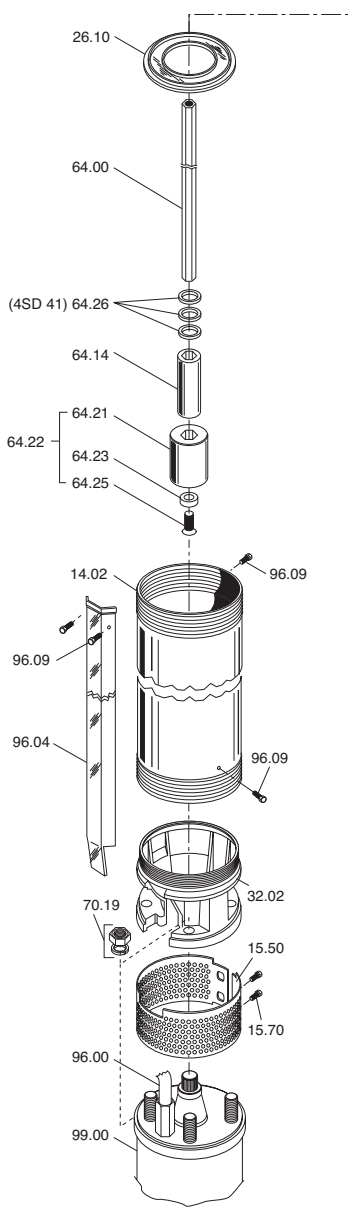
警告: 任何操作之前均应断开电源.  
决不允许泵组干转,即使是短时间的.  
严格按照使用说明书操作,如有必要请联系授权服务中心.

故障现象	故障的可能原因	解决办法
1) 电机不工作	1a) 供电问题 1b) 电线连接错误 1c) 电机的过载保护动作 1d) 保险丝问题 1e) 泵轴卡死 1f) 如以上问题均检查过而故障仍存在,可能是电机问题	1a) 检查主电源的电压、频率等参数是否符合电机铭牌所示,确保所使用的电缆线径与电机功率和线缆长度是匹配的. 1b) 检查电源电缆与控制面板连接是否正确 1c) 检查确认过载保护的设置是否正确(详见电机名牌数据),务必保证电机保险丝安装正确。根据操作手册检查电机电缆内部的绝缘值。同时参见1a) 1d) 更换保险丝,并检查主电源同时见a)c) 1e) 提出泵,清理入口过滤器并检查确认电机和泵是否可以自如的旋转。如果泵轴或/和电机旋转不自如,请联系授权服务中心 1f) 向本地服务中心申请维修或更换电机
2) 泵工作但不出水	2a) 确认阀门是开着的没被卡死. 2b) 出口壳体堵塞或单向阀阻塞 2c) 进水阀门关闭. 2d) 泵的进口过滤器堵塞. 2e) 泵被安装于液面之上(干转) 2f) 泵的转向错误	2a) 拆开出口管路的单向阀并开通,必要时更换它. 2b) 提出泵,如果需要,请联系授权服务中心更换单向阀 2c) 打开进水阀门. 2d) 取出泵,拆开并清洁过滤器,必要时更换. 2e) 将泵更深的放入水中直至与泵的性能相吻合.如因水面降低引起同样处理. 2f) 任意调换两根电线的位置.
3) 流量不足	3a) 管路或附件直径过小导致过大的损失 3b) 转子的内部流道和/或扩散器内有固体颗粒或沉积物. 3c) 出口管路上的输送阀或单向阀被固体异物堵塞 3d) 泵上的止回阀被固体异物堵塞 3e) 转子损坏 3d) 转子和扩散器磨损过度 3e) 井水水位太低. 3f) 错误的旋转的方向. 3g) 出水管渗漏 3h) 水中溶气过多	3a) 选用直径适当的管路和附件 3b) 取出泵联系授权的服务中心. 3c) 拆下这些阀门和单向阀并进行清理 3d) 提出泵并清理单向阀,如果需要,请联系授权服务中心。清理入口滤网。 3c) 更换转子联系授权服务中心 3d) 联系授权服务中心更换转子和扩散器密封环,甚至扩散器。 3e) 增加泵的浸入深度直至与泵的性能相吻合,减小流量,对井的动态水位来说泵太大了。 3f) 见2e) 3g) 找到出水管渗漏位置,如在井中垂直位置,取出泵修理管路。 3h) 联系授权服务中心
4) 泵的震动和噪音	4a) 转动部件不平衡 4b) 叶轮滑落至扩散器上方 4c) 泵和管路没有稳固的连接固定 4d) 针对所使用的出口管路而言流量过大 4e) 三相电不平衡	4a) 检查是否有异物卡住转轴 请联系授权服务中心确认泵轴套的情况。 4b) 如果电机的推力轴承和/或泵轴套磨损,请联系授权服务中心 4c) 牢固连接固定泵和进出水管路 4d) 换用更粗的出水管或减小泵的流量 4e) 检查主电源
5) 泵反复启停	5a) 泵流量过大 5b) 热保护功能反复介入 5c) 系统有泄露	5a) 部分关闭出口阀门降低流量。相对于井中的动态液位泵可能选大了 5b) 测量吸收电流。如需要请适当调整过载保护值。转动泵,确保泵轴或电机轴旋转自如。同时参见1e) 5c) 检查系统的泄露原因并封闭或更换泄漏部件.

中文

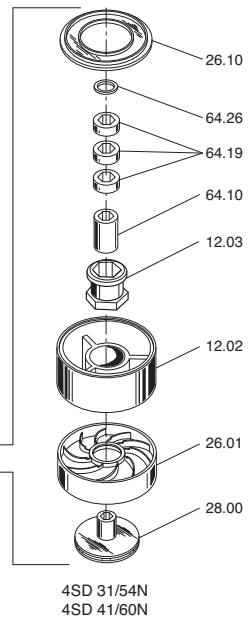
13. Disegno per lo smontaggio ed il rimontaggio  
 Drawing for dismantling and assembly  
 Zeichnung für Demontage und Montage  
 Dessin pour démontage et montage  
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 Чертеж для демонтажа и сборки  
 组装与分解图

**4SD 31**



(1) ogni 3 stadi  
 every 3 stages  
 tout les 3 étages  
 cada tres elementos

MODELLI CON INTERSTADIO  
 MODELS WITH INTERMEDIARY BUSH BRACKET  
 MODELES AVEC PALIER INTERMEDIAIRE  
 MODELOS CON SOPORTE INTERMEDIO

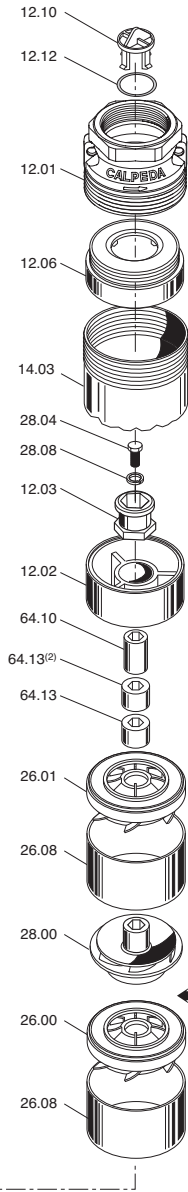
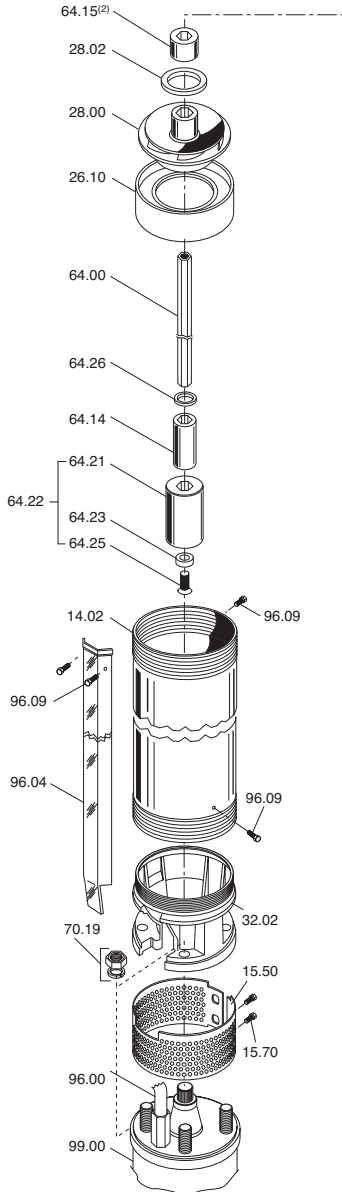


4SD 31/54N  
 4SD 41/60N



13. Disegno per lo smontaggio ed il rimontaggio  
 Drawing for dismantling and assembly  
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 Dessin pour démontage et montage  
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 Чертеж для демонтажа и сборки  
 组装与分解图

# 4SD 10,15



(1) Solo nei tipi  
 Only for types  
 Nur für baugrößen  
 Seulement pour les types  
 Solo en los tipos  
 Endast typ

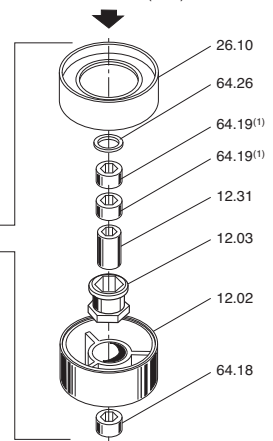
4SD 10/20  
 4SD 10/22  
 4SD 10/24  
 4SD 10/27  
 4SD 10/30

(2) Solo nei tipi  
 Only for types  
 Nur für baugrößen  
 Seulement pour les types  
 Solo en los tipos  
 Endast typ

4SD 15

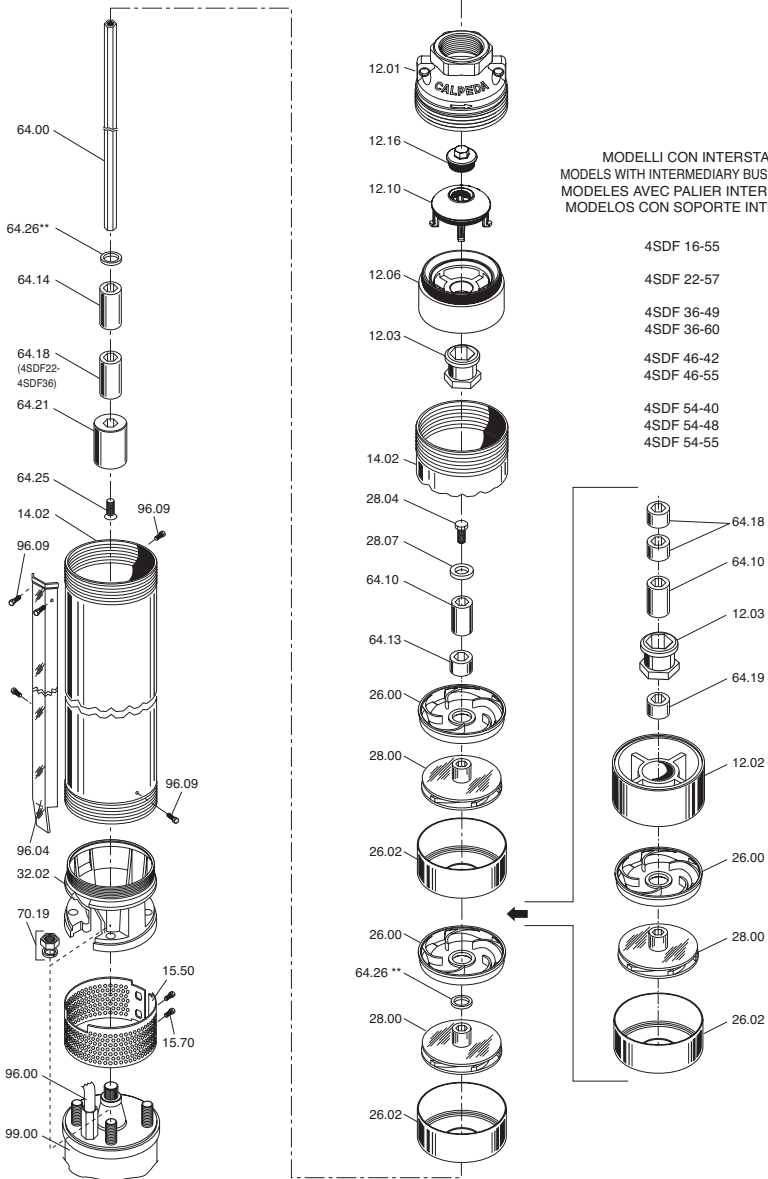
MODELLI CON INTERSTADIO  
 MODELS WITH INTERMEDIARY BUSH BRACKET  
 MODELES AVEC PALIER INTERMEDIAIRE  
 MODELOS CON SOPORTE INTERMEDIO

4SD 10/20  
 4SD 10/22  
 4SD 10/24  
 4SD 10/27  
 4SD 10/30  
 4SD 15/15  
 4SD 15/17  
 4SD 15/23 (n° 2)



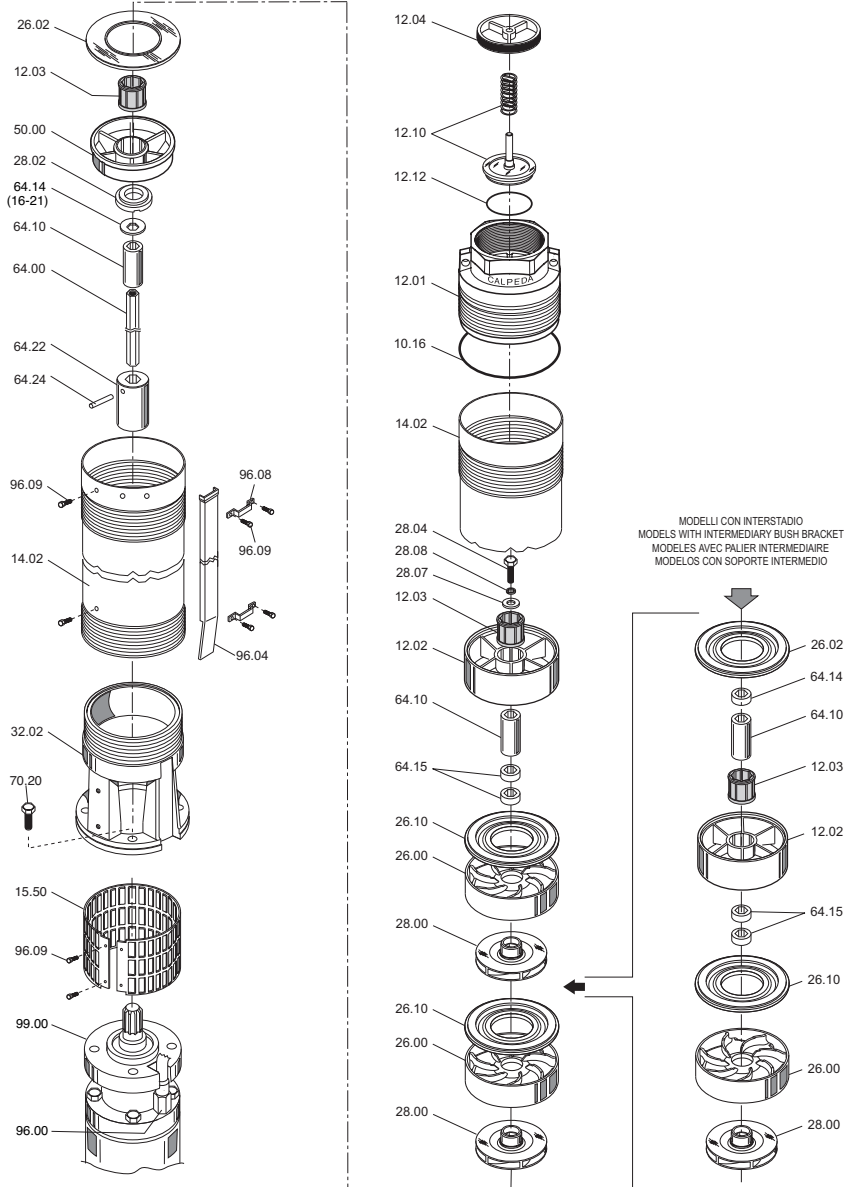
13. Disegno per lo smontaggio ed il rimontaggio  
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 组装与分解图

# 4SDF 16,22,36,46,54



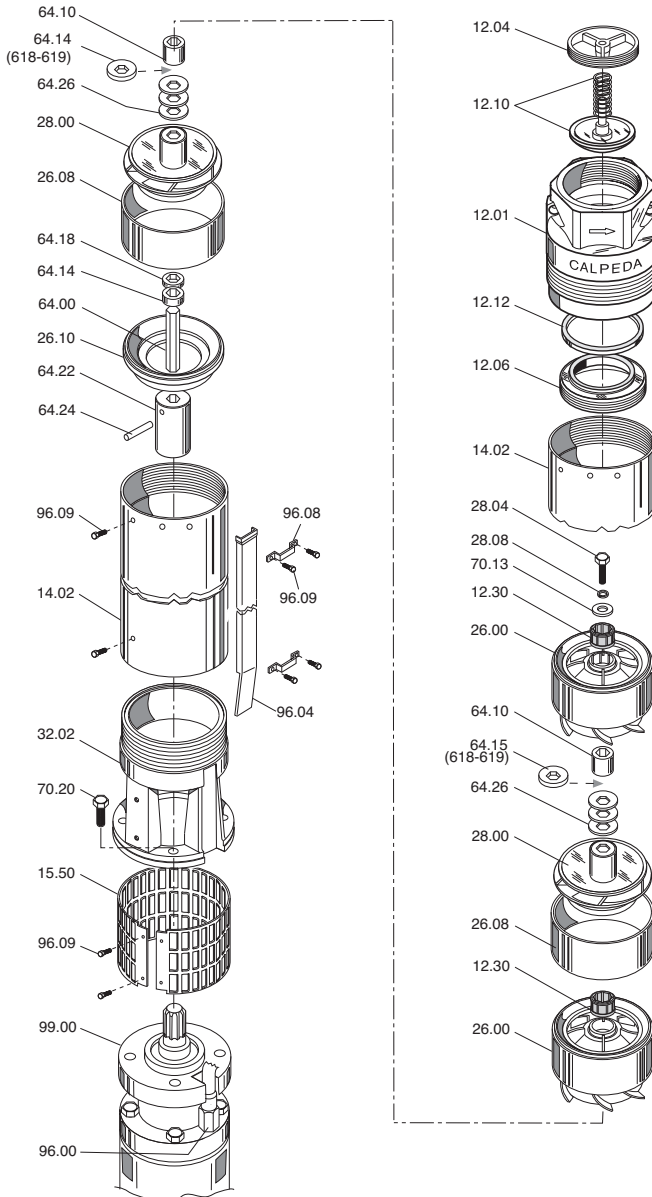
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 Onderdelentekening  
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 组装与分解图

6SDN 12,16,21



13. Disegno per lo smontaggio ed il rimontaggio  
 Drawing for dismantling and assembly  
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 Dessin pour démontage et montage  
 Dibujo para desmontaje y montaje  
 Ritning för demontering och montering  
 Onderdelentekening  
 Чертеж для демонтажа и сборки  
 组装与分解图

**6SD 18,19,20**

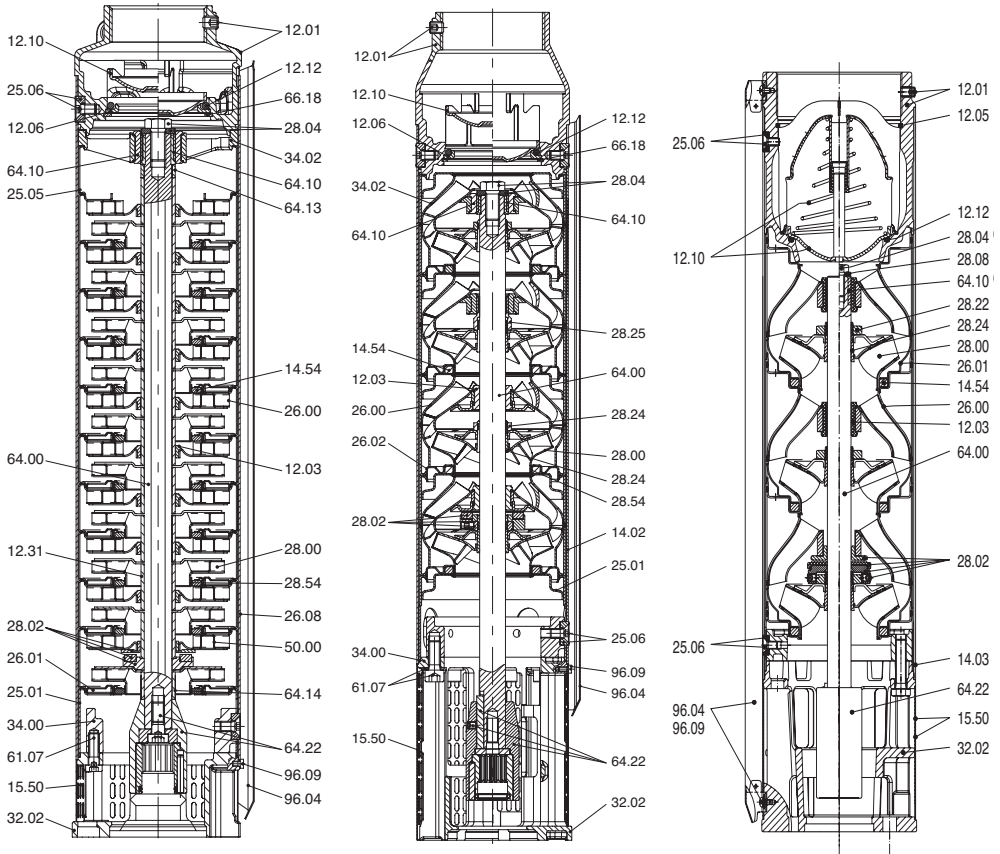


13. Disegno per lo smontaggio ed il rimontaggio  
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 组装与分解图

**6SDX 13,18,27**

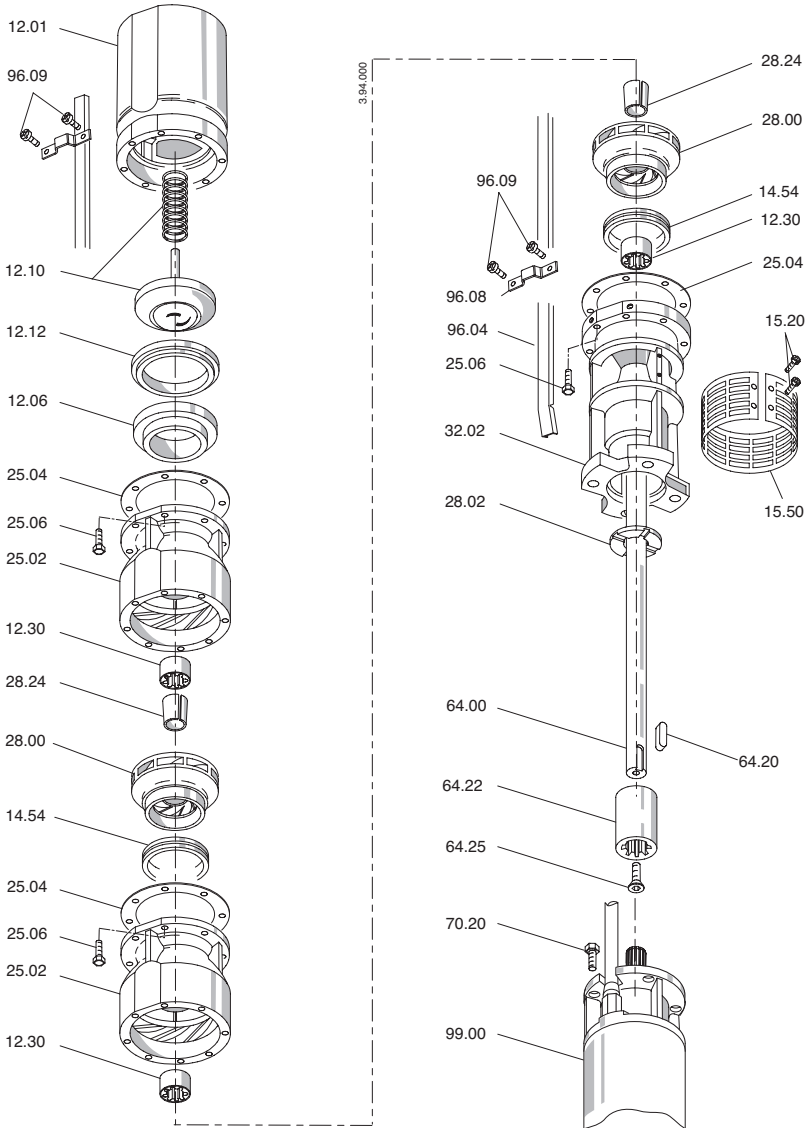
**6SDX 30,46,65**

**8SDX 78,97**



13. Disegno per lo smontaggio ed il rimontaggio  
 Drawing for dismantling and assembly  
 Zeichnung für Demontage und Montage  
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 Onderdelentekening  
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 组装与分解图

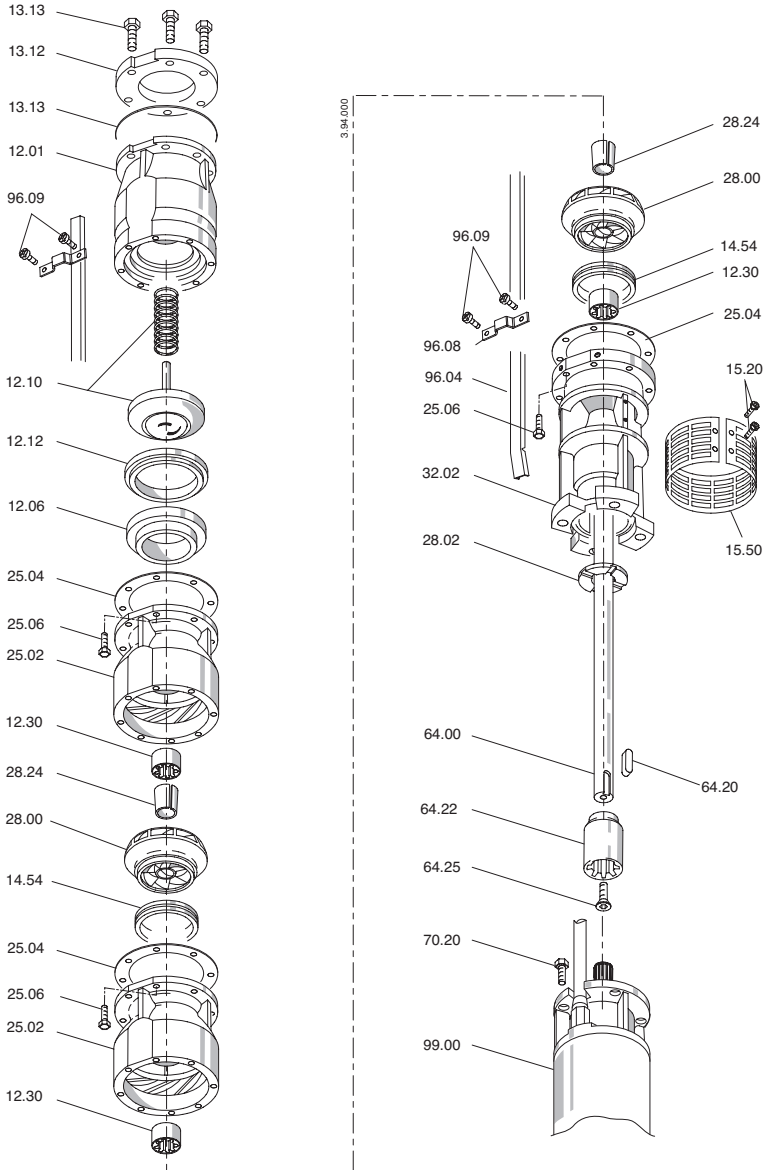
6SDS





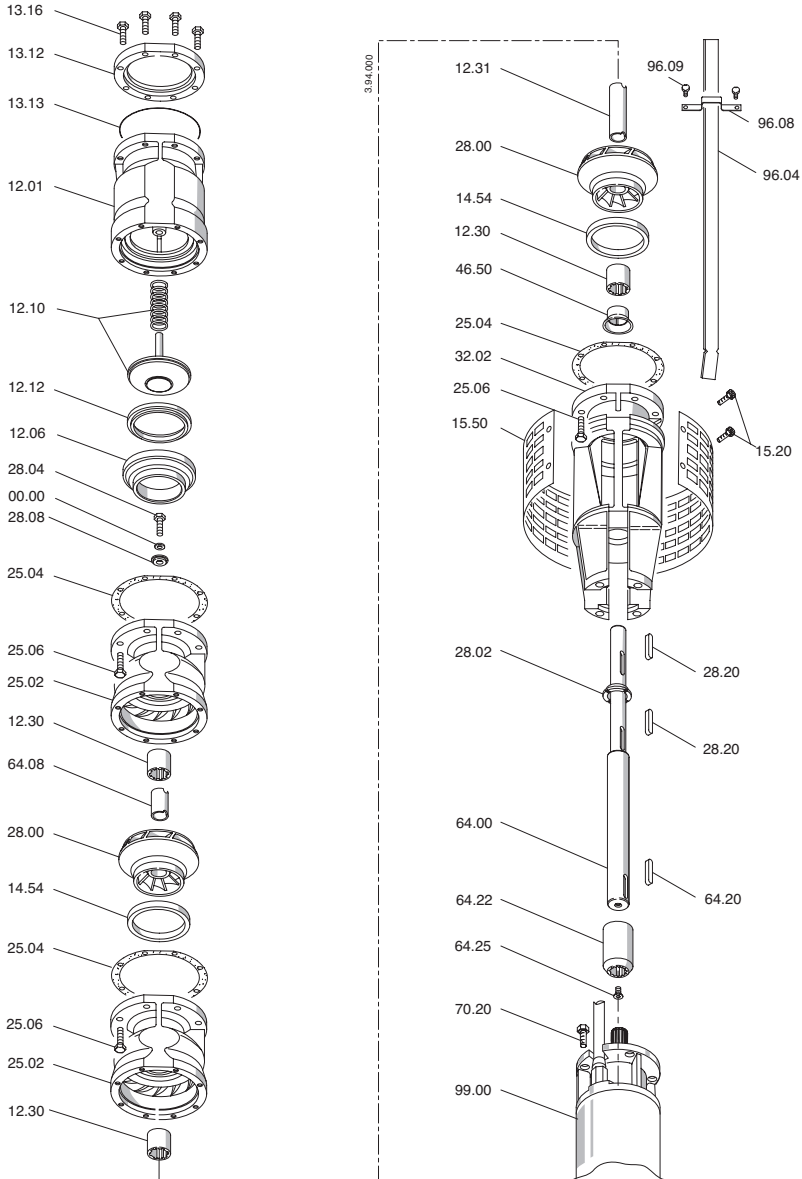
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 Onderdelentekening  
 Чертеж для демонтажа и сборки  
 组装与分解图

8SDS



13. Disegno per lo smontaggio ed il rimontaggio  
 Drawing for dismantling and assembly  
 Zeichnung für Demontage und Montage  
 Dessin pour démontage et montage  
 Dibujo para desmontaje y montaje  
 Ritning för demontering och montering  
 Onderdelentekening  
 Чертеж для демонстрации и сборки  
 组装与分解图

10SDS



## **IT DICHIARAZIONE DI CONFORMITÀ**

Noi CALPEDA S.p.A. dichiariamo sotto la nostra esclusiva responsabilità che le Pompe SD, SDM, SDN, SDX, SDS, B-SDS, tipo e numero di serie riportati in targa, sono conformi a quanto prescritto dalle Direttive 2006/42/CE, 2009/125/CE, 2014/30/EU, 2014/35/EU e dalle relative norme armonizzate. Regolamento della Commissione N. 547/2012.

## **GB DECLARATION OF CONFORMITY**

We CALPEDA S.p.A. declare that our Pumps SD, SDM, SDN, SDX, SDS, B-SDS, with pump type and serial number as shown on the name plate, are constructed in accordance with Directives 2006/42/EC, 2009/125/EC, 2014/30/EU, 2014/35/EU and assume full responsibility for conformity with the standards laid down therein. Commission Regulation No. 547/2012.

## **D KONFORMITÄTSERKLÄRUNG**

Wir, das Unternehmen CALPEDA S.p.A., erklären hiermit verbindlich, daß die Pumpen SD, SDM, SDN, SDX, SDS, B-SDS, Typbezeichnung und Fabrik-Nr. nach Leistungsschild den EG-Vorschriften 2006/42/EG, 2009/125/EG, 2014/30/EU, 2014/35/EU entsprechen. ErP-Richtlinie N. 547/2012.

## **F DECLARATION DE CONFORMITE**

Nous, CALPEDA S.p.A., déclarons que les Pompes SD, SDM, SDN, SDX, SDS, B-SDS, modèle et numero de série marqués sur la plaque signalétique sont conformes aux Directives 2006/42/CE, 2009/125/CE, 2014/30/EU, 2014/35/EU. Règlement de la Commission N° 547/2012.

## **E DECLARACION DE CONFORMIDAD**

En CALPEDA S.p.A. declaramos bajo nuestra exclusiva responsabilidad que las Bombas SD, SDM, SDN, SDX, SDS, B-SDS, modelo y numero de serie marcados en la placa de características son conformes a las disposiciones de las Directivas 2006/42/CE, 2009/125/CE, 2014/30/EU, 2014/35/EU. Reglamento de la Comisión n.º 547/2012.

## **DK OVERENSSTEMMELSEERKLÆRING**

Vi CALPEDA S.p.A. erklærer hermed at vore pumper SD, SDM, SDN, SDX, SDS, B-SDS, pumpe type og serie nummer vist på typeskiltet er fremstillet i overensstemmelse med bestemmelserne i Direktiv 2006/42/EC, 2009/125/EC, 2014/30/EU, 2014/35/EU og er i overensstemmelse med de heri indeholdte standarder. Kommissionens forordning nr. 547/2012.

## **P DECLARAÇÃO DE CONFORMIDADE**

Nós, CALPEDA S.p.A., declaramos que as nossas Bombas SD, SDM, SDN, SDX, SDS, B-SDS, modelo e número de série indicado na placa identificadora são construídas de acordo com as Directivas 2006/42/CE, 2009/125/CE, 2014/30/EU, 2014/35/EU e somos inteiramente responsáveis pela conformidade das respectivas normas. Disposição Regulamentar da Comissão n.º 547/2012.

## **NL CONFORMITEITSVERKLARING**

Wij CALPEDA S.p.A. verklaren hiermede dat onze pompen SD, SDM, SDN, SDX, SDS, B-SDS, pomptype en serienummer zoals vermeld op de typeplaat aan de EG-voorschriften 2006/42/EU, 2009/125/EU, 2014/30/EU, 2014/35/EU voldoen. Verordening van de commissie nr. 547/2012.

## **SF VAKUUTUS**

Me CALPEDA S.p.A. vakuutamme että pumppumme SD, SDM, SDN, SDX, SDS, B-SDS, malli ja valmistusnumero tyypikilvistä, ovat valmistettu 2006/42/EU, 2009/125/EU, 2014/30/EU, 2014/35/EU direktiivien mukaisesti ja CALPEDA ottaa täyden vastuun siitä, että tuotteet vastaavat näitä standardeja. Komission asetus (EY) N:o 547/2012.

## **S EU NORM CERTIFIKAT**

CALPEDA S.p.A. intygar att pumpar SD, SDM, SDN, SDX, SDS, B-SDS, pumptyp och serienummer, visade på namnplåten är konstruerade enligt direktiv 2006/42/EC, 2009/125/EC, 2014/30/EU, 2014/35/EU. Calpeda åtar sig fullt ansvar för överensstämmelse med standard som fastställts i dessa avtal. Kommissionens förordning nr 547/2012.

## **GR ΔΗΛΩΣΗ ΣΥΜΦΩΝΙΑΣ**

Εμείς ως CALPEDA S.p.A. δηλώνουμε ότι οι αντλίες μας αυτές SD, SDM, SDN, SDX, SDS, B-SDS, με τύπο και αριθμό σειράς κατασκευής όπου αναγράφετe στην πινακίδα της αντλίας, κατασκευάζονται σύμφωνα με τις οδηγίες 2006/42/EOK, 2009/125/EOK, 2014/30/EU, 2014/35/EU και αναλαμβάνουμε πλήρη υπευθυνότητα για συμφωνία (συμμόρφωση), με τα στάνταρς των προδιαγραφών αυτών. Κανονισμός Αρ. 547/2012 της Επιτροπής.

## **TR UYGUNLUK BEYANI**

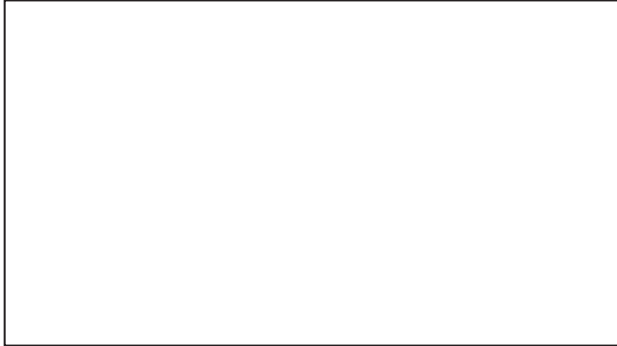
Bizler CALPEDA S.p.A. firması olarak SD, SDM, SDN, SDX, SDS, B-SDS, Pompalarımızın, 2006/42/EC, 2009/125/EC, 2014/30/EU, 2014/35/EU direktiflerine uygun olarak imal edildiklerini beyan eder ve bu standartlara uygunluk'una dair tüm sorumluluk'u üstleniriz. 547/2012 sayılı Komisyon Yönetmeliği.

## **RU ДЕКЛАРАЦИЯ СООТВЕТСТВИЯ**

Компания "Calpeda S.p.A." заявляет с полной ответственностью, что насосы серий SD, SDM, SDN, SDX, SDS, B-SDS, тип и серийный номер которых указывается на заводской табличке соответствуют требованиям нормативов 2006/42/CE, 2009/125/CE, 2014/30/EU, 2014/35/EU. Постановление Комиссии № 547/2012.

## **中文 声明**

我们科沛达泵业有限公司声明我们制造的 SD, SDM, SDN, SDX, SDS, B-SDS, (在标牌上的泵型号和序列号)均符合以下标准的相应目录:2006/42/EC, 2009/125/EC, 2014/30/EU, 2014/35/EU. 本公司遵循其中的标准并承担相应的责任. 委员会案例 No.547/2012



CONSERVARE QUESTE ISTRUZIONI  
SAVE THESE INSTRUCTIONS  
DIESE BETRIEBSANLEITUNG AUFBEWAHREN  
CONSERVER CES INSTRUCTIONS  
CONSERVAR ESTAS INSTRUCCIONES  
SPARA DENNA INSTRUKTIONEN  
DIT BEDIENINGSVOORSCHRIFT BEWAREN  
ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ  
СОХРАНЯЙТЕ ДАННЫЕ ИНСТРУКЦИИ !



**Calpeda s.p.a.** - Via Roggia di Mezzo, 39 - 36050 Montorso Vicentino - Vicenza / Italia  
Tel. +39 0444 476476 - Fax +39 0444 476477 - E.mail: [info@calpeda.it](mailto:info@calpeda.it) [www.calpeda.com](http://www.calpeda.com)