

Regolatore elettronico per pompe
Electronic regulator for pumps
Elektronikschaltautomat für Pumpen
Regulateur électronique pour pompes
Regulador electrónico para bombas
Ηλεκτρονικός ελεγκτής για αντλίες
Электронный регулятор для насосов

IDROMAT

ISTRUZIONI ORIGINALI PER L'USO

OPERATING INSTRUCTIONS

BETRIEBSANLEITUNG

INSTRUCTIONS POUR L'UTILISATION

INSTRUCCIONES DE USO

INSTRUKTIONER INSTALLATION OG BRUG

ИНСТРУКЦИИ ПО ЭКСПЛУАТАЦИИ

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 **calpeda**[®]

CE

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1. GENERAL INFORMATION

Before using the product read carefully 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. specifying the type of product data shown on the label of the machine !da duplicazione!

Any changes, alterations or modifications made to the product or part of it, not authorised 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.


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.


 The failure to observe mechanical information and warnings, could compromise personnel safety.


 The product surface can be extremely hot and cause burns or injury to personnel.


 The failure to observe mechanical information and warnings, could compromise personnel safety.


 Operations that could be performed by the final user. After a careful reading of the instructions, the final user is responsible for maintenance under normal conditions. The final user is authorised to affect standard maintenance operations.


 Operations that must be performed by a qualified electrician specialised to affect all electrical operations including maintenance and able to operate with in the presence of high voltages.

 Operations that must be done by a qualified technician able to install the device, under normal conditions, working during "maintenance", and allowed to do mechanical interventions for maintenance.

 Indicates that it is mandatory to use individual protection devices - protection for hands.

 Indicates that it is mandatory to use individual protection devices - protection for eyes.

 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. Authorised operators

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



It is forbidden, for the end user, to carry out operations which must be done only by specialised 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 (recognised by the manufacturer).

The Warranty will not be considered in the following cases:

1. Whenever the use of the device does not conform to the instructions and information described in this manual.
2. In case of changes or variations made without authorization of the manufacturer.
3. In case of technical interventions executed by a nonauthorised by the manufacturer personnel.
4. 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 manufacturer.

2. TECHNICAL DESCRIPTION

Pumps control device provided with flow rate and pressure sensor The electronic controller IDROMAT controls the automatic start and stop of the water pump when opening or closing any tap or valve of the installation. When the water pump starts, it keeps running while there is any tap opened in the system, giving the required flow at constant pressure to the network.

Pump type	Restart pressure	Highest plant point	Pump head
IDROMAT 5-15	1,2 bar	< 12 m	> 25 m
IDROMAT 5-18	1,5 bar	< 15 m	> 30 m
IDROMAT 5-25	2,2 bar	< 22 m	> 35 m
IDROMAT 5-33	3,0 bar	< 30 m	> 45 m
IDROMAT 6-15	1,5 bar	< 15 m	> 30 m
IDROMAT 6-30	3,0 bar	< 30 m	> 45 m
IDROMAT 5e	1,5 bar	< 15 m	> 30 m
IDROMAT 5e	2,0 bar	< 20 m	> 35 m
IDROMAT 5e	2,5 bar	< 25 m	> 40 m

2.1. Intended use

For clean liquids, non-explosive or flammable, without abrasives.



The electric control system can be used for both potable and non-potable water. In case of installations in which is possible to use the two kinds of water, make sure that the potable water circuit comes into contact with non-potable water. (follow the laws in effect in the Country in which the product is installed).

EN

2.2. Uncorrect usage reasonably to forecast

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 S.p.A. shall not be responsible for failure or accident due to improper use.



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

3. TECHNICAL FEATURES

3.1. Technical data

The device runs correctly only if all the following features are respected.

Protection IP 65

Supply voltage/ Frequency:

115V 1~ ±10% (IDROMAT 5e not included)

230V 1~ ±10% 50/60Hz

Max. current value:

8 A IDROMAT 5

16 A IDROMAT 6





Working temperature: 0 ÷ + 65 °C

Max. working pressure: 12 bar

Relative Humidity: from 20 to 90% without condensation

Maximum working rate: 10 m³/h (12 m³/h IDROMAT 6)

3.2. Construction

Inlet R1" male (R1" ¼ male for IDROMAT 6)
 Outlet R1" male (R1" ¼ male for IDROMAT 6)
 Special non return valve to prevent water hammering
 Dry-running protection
 Pressure gauge (IDROMAT 5-30 and 6. Not supplied)
 Manual start switch (RESET 
 Voltage LED (POWER 
 Pump-running LED (ON 
 Security system LED (FAILURE 

4. SAFETY

4.1. General provisions



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

Carefully read all technical, operating instructions and the indications defined in this manual for the different steps: from transportation to disposal.

The specialised technicians must carefully comply with all applicable standards and laws, including local regulations of the country where the device 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 authorised distributor.



Do not remove or change the labels placed on the device. Do not start the device in case of defects or damaged parts.



The device must never be opened, tampered nor stripped of its protections.

The appliance must be installed, adjusted and maintained by qualified personnel who understand the risks involved.



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

All the power terminals and other terminals must be inaccessible after installation is completed.

The connections of the alarms can distribute power even when the appliance is turned off.

Ensure that there is no residual voltage on the terminals of the alarms.

4.2. Safety devices

The device has an external case that prevents any contact with internal parts and the elements in voltage.

4.3. Residual risks

The appliance, designed for use, when used in-line with the design and safety rules, does not have any residual risk.

4.4. Individual protection devices

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

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.

5.1. Handling

Handle with care, the packages must not receive impacts.

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

The manufacturer disclaims any liability for use under conditions other than those indicated in these instructions.

5.2. Storing

The appliance should be stored in a dry place, protected from shock and possibly with its original packaging. The storage environment temperature must be from -10°C up to +65°C.

6. INSTALLATION

6.3. 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 is Absolutely forbidden to install the machine in an environment with potentially explosive atmosphere.

6.4. 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.

6.5. Hydraulic connection



Before proceeding with hydraulic connection make sure to prime the pump correctly.

The IDROMAT should always be installed in horizontal position with the overmolded arrow pointing to the top, connecting the inlet (male) directly to the pump and the outlet (male) to the network (picture 1 chapter 10).



Do not locate the check valve at the on the exit of the IDROMAT (picture 7). No device must be installed between the pump and the device. It is recommended to apply a ball valve in the outside of the device to isolate the IDROMAT group pump from the net. (pictures 5-6).

It is advisable to connect the device outlet to the system by using a hose. (picture 6)

Do not install the Idromat in systems with pumps achieving more than 12 bar pressure at 0 flow.



The pressure created by the pump must be normally 1 bar higher than the restarting pressure of the device. In particular, the actual pressure of pump and the height of water column which burden on the device must be checked in relation to the restarting pressure. The head parameter must comply with the table in chapter 2.

6.6. Submersible pump installation

Install an auxiliary membrane tank with minimum capacity of 20l to prevent exceeding the maximum number of motor-startings per hour. (picture 5) The auxiliary tank must be swelled to a pressure of about 0,2 bar below the restarting IDROMAT pressure. (chapter 10).



The pump does not have to operate at a flow lower than the minimum flow indicated on the pump plate.

6.7. Electric connection



Fasten the input/output cables by tightening the cable gland ferrules in the lower part of the electric control panel.



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

Follow all safety standards.

The unit must be properly earthed (grounded). Connect the earthing (grounding) conductor to the terminal with the marking ⊕.



Once the electrical connection has been completed, remove any pieces of wire, sheath, washers or any other foreign bodies that may be found inside the electric control panel.



Bad connections may spoil the electronic circuit.

6.7.1. Power supply connection

Follow the indications reported in the electrical scheme (paragraph 10).

6.7.2. Electric motor connection



For single-phase motors, the motor power cable must be connected to the terminal block, while for three-phase motors, the motor power cable must be connected directly to the output terminals of the contactor. (paragraph 10).

7. STARTUP AND OPERATION

7.1. Preliminary checks before start-up of the pump

Do not start the device in case of damaged parts.

7.2. First starting



1. Be sure that the pump is correctly primed, then gently open one tap

2. Connect the IDROMAT to the electric supply, the voltage LED will lit (POWER).

3. The pump starts working automatically and within a period of 20-25 seconds the pressure gauge (only for IDROMAT 5) will reach the maximum pump pressure.

While the pump is on, the led is lightened. If the pump doesn't start or it doesn't reach the pressure, reset with the button .

4. Close the tap indicated on point 1; after 8-10 seconds the pump will stop. The voltage LED () will be the only one to remain on.

Any problem after this procedure will be due to a defective pump priming.

7.3. Setting the restart pressure values (IDROMAT 5e)

The device is calibrated in factory to 1,5 bar, to change the value keep the button Set pushed for 3 seconds for one or more times. The green LED will light up next to the value selected. The pump stops if the pressure generated by the same fails to reach the values indicated above. The pump restarts but does not start working if the height of the water column is higher than the quotas shown in the table at page 9).

7.4. Automatic restart and anti-jamming function

In case of stop due to a lack of aspiration water, the device starts 10 double attempts of restart of about 5 seconds each one, during the next 24 hours from the block. This to permit, if possible, the recharge of the pump. After the last attempt of failed restart, the device stays in alarm (red led FAILURE intermittent) waiting for a new manual restart through the pushbutton (RESET .

In case the pump will be stopped for 24 consecutive hour (except in presence of FAILURE) the device restarts the motor automatically of about 5 seconds (antiblockage function). In case of energy interruption, the device restarts automatically at the energy return.

7.5. Switch off



The device must be switched off every time there are faults.

The device is designed for continuous working. The shutdown takes place only disconnecting the power supply according to the specific disconnection methods. (Paragraph 6.7).

8. DISPOSAL



Dir. 2012/19 EU (WEEE)

Observe the local regulations and dispose of any control gear accordingly.

This product contains electrical and electronic components and should be disposed accordingly.

Separate the components using anti-cut water resistant gloves.

Is preferred to help to make a further use or dismantling. Observe the local regulations and dispose the device accordingly with the international rules for environment protection.

9. TROUBLESHOOTING



Before doing any troubleshooting on the appliance, it is necessary to disconnect any supply for at least 5 minutes. Be sure that the main supply cannot be accidentally turned on.

(General issues)

PROBLEM	PROBABLE CAUSES	POSSIBLE REMEDIES
The pump does not stop	Water loose greater than 1l/min through the tube.	Check the closure of the valves involved.
	Manual button of starting (RESET) blocked.	Act on the button many times, in case of anomaly persistence, contact the technical service.
	Failure in the electronic card.	Replace the circuit board.
The pump does not start	No electrical supply.	Check the proper electric feeding. The voltage LED (POWER) should be on.
	Not enough water supply, the security system has been activated and the LED (FAILURE) is on.	Check the water supply and reset the pump through the reset switch (RESET) .
	Pump is blocked: LED (FAILURE) is on, the security system is activated.	When you act on the manual start switch (RESET) the LED (ON) is activated but the pump does not work: contact your dealer.
	Failure in the electronic card.	Replace the circuit board.
	Not enough pump pressure: the security system has been activated and the corresponding LED (FAILURE) is on.	Make sure that the pump pressure is higher than the starting IDROMAT pressure and that the highest point of the plant is lower than the value reported on the technical table.
Air in the pump suction: the pressure gauge will indicate a pressure lower than the nominal one or constant oscillations.	The security system will act by stopping the pump, the LED (FAILURE) will be on.	
The pump starts and stops repeatedly	Small leakage in some point of the installation.	Check if there is a leakage from the tap or water closet, and fix them. If the system does not reach the restarting pressure, the FAILURE led flashes.

Subject to modification.

10. SCHEMI DI COLLEGAMENTO

CONNECTION DIAGRAMS

ANSCHLUßPLÄNE WEITER UNTEN

SCHEMA DE RACCORDEMENT

ESQUEMAS DE CONEXION

TILSLUTNINGS DIAGRAMMER

ΣΧΕΔΙΑΓΡΑΜΜΑ ΣΥΝΔΕΣΗΣ

СХЕМЫ ДЛЯ ПОДКЛЮЧЕНИЯ

DIMENSIONI

Figura 1

IDROMAT 5

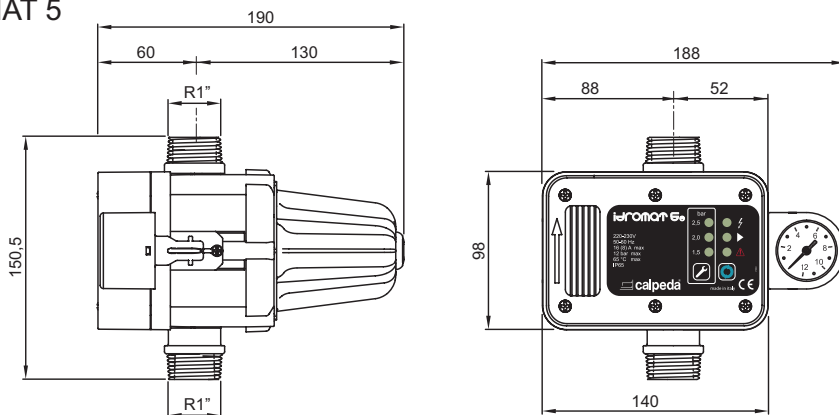


Figura 2

IDROMAT 6

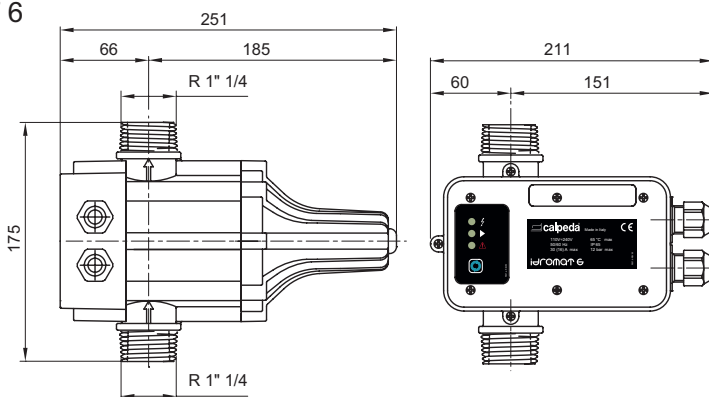


Figura 3

Funzionamento sotto battente
Positive suction head operation
Fonctionnement en charge
Funcionamiento bajo carga

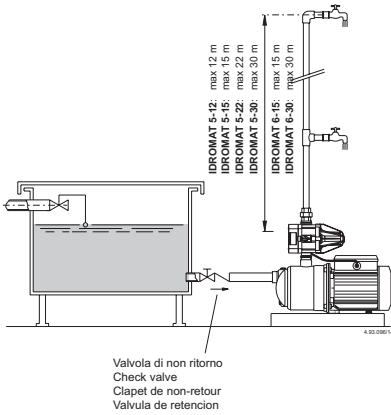


Figura 4

Funzionamento in aspirazione
Suction lift operation
Fonctionnement en aspiration
Funcionamiento en aspiración

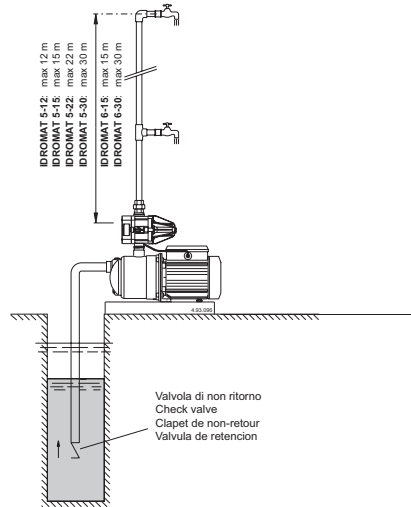


Figura 5

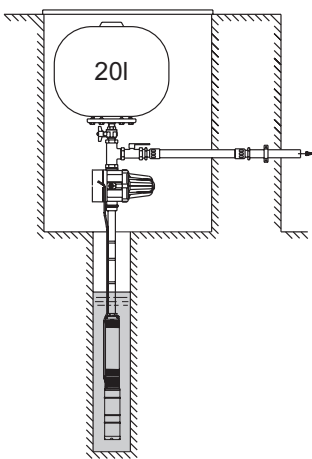


Figura 6

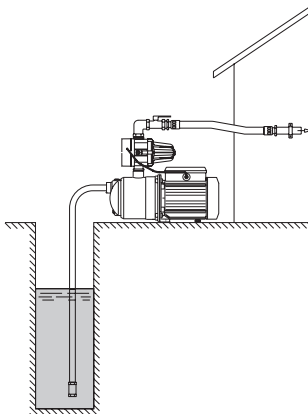


Figura 7

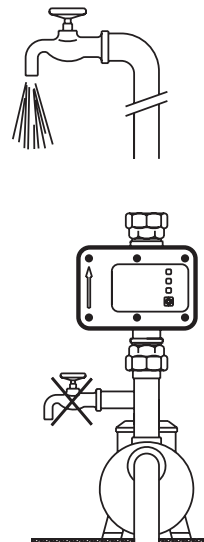
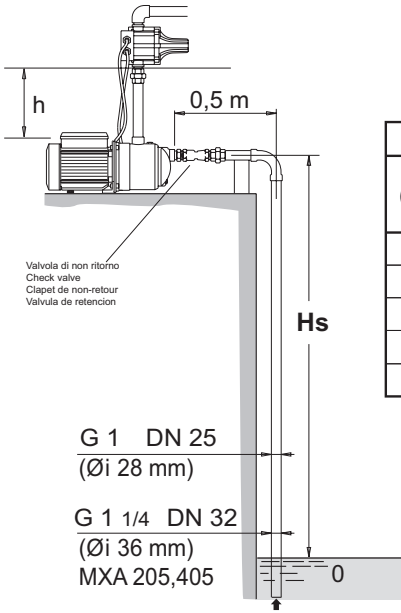


Figura 8

MXA, NGX, NGL

Capacità di autoadescamento
 Self-priming capability
 Capacité d'autoamorçage
 Capacidad de autoaspiración



Hs (m) ≤	h (mm)							
	MXA						NGL	NGX
	203	204	205	403	404	405		
2	100	100	500	100	100	500	500	500
4	200	200	500	450	450	500	500	500
6	450	450	500	600	600	600	500	500
8	600	600	600	600	600	600	500	500
9	-	-	-	-	-	-	500	500

H₂O, T = 20°C

Pa = 1000 hPa (mbar)

50 Hz (n ≈ 2800 1/min)

Per i 60 Hz vedere i dati tecnici.

Hs (m) = Altezza di aspirazione

t (min) = Tempo di autoadescamento

Figura 9

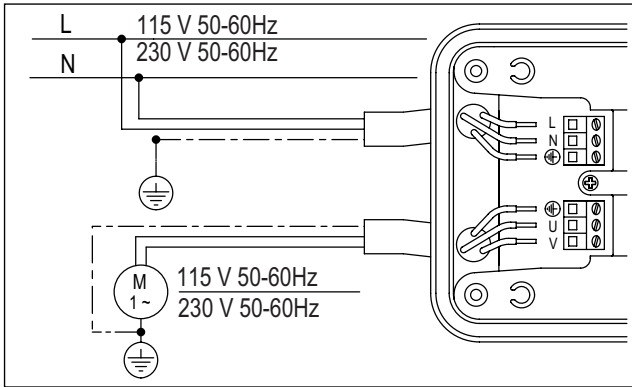


Figura 10

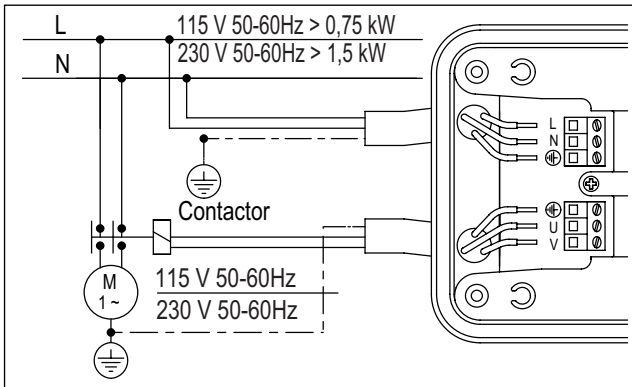
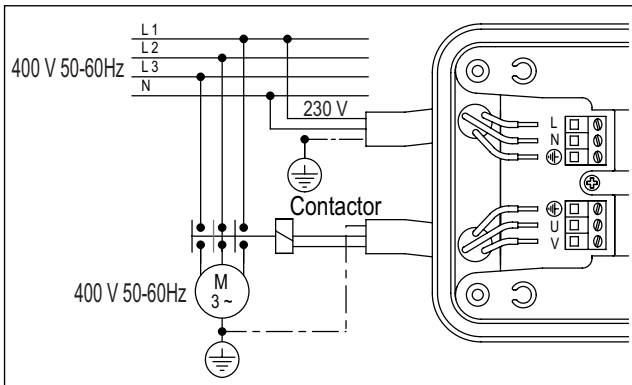


Figura 11



IT. DICHIARAZIONE DI CONFORMITÀ

Noi Calpeda S.p.A. dichiariamo sotto la nostra esclusiva responsabilità che il prodotto IDROMAT, tipo e numero di serie riportati in targa, sono conformi a quanto prescritto dalle Direttive 2011/65/EU, 2014/30/EU, 2014/35/EU e dalle relative norme armonizzate.

GB. DECLARATION OF CONFORMITY

We CALPEDA S.p.A. declare that the product IDROMAT, with type and serial number as shown on the name plate, are constructed in accordance with Directives 2011/65/EU, 2014/30/EU, 2014/35/EU and assume full responsibility for conformity with the standards laid down therein.

DE. KONFORMITÄTSEKTLÄRUNG

Wir, das Unternehmen CALPEDA S.p.A., erklären hiermit verbindlich, daß das Produkt IDROMAT, Typbezeichnung und Fabrik-Nr. nach Leistungsschild den EG-Vorschriften 2011/65/EU, 2014/30/EU, 2014/35/EU entsprechen.

F. DÉCLARATION DE CONFORMITE

Nous, CALPEDA S.p.A., déclarons que le produit IDROMAT, modèle et numero de série marqués sur la plaque signalétique sont conformes aux Directives 2011/65/EU, 2014/30/EU, 2014/35/EU.

ES. DECLARACION DE CONFORMIDAD

En CALPEDA S.p.A. declaramos bajo nuestra exclusiva responsabilidad que el producto IDROMAT, modelo y numero de serie marcados en la placa de características son conformes a las disposiciones de las Directivas 2011/65/EU, 2014/30/EU, 2014/35/EU.

DK. OVERENSSTEMMELSEERKLÆRING

Vi CALPEDA S.p.A. erklærer, at nedenstående produkt IDROMAT, type og serie nummer vist på typeskiltet er fremstillet i overensstemmelse med bestemmelserne i Direktiv 2011/65/EU, 2014/30/EU, 2014/35/EU og er i overensstemmelse med de heri indeholdte standarder.

NL. CONFORMITEITSVERKLARING

Wij CALPEDA S.p.A. verklaren hiermede dat het product IDROMAT, type en serienummer zoals vermeld op de typeplaat aan de EG-voorschriften 2011/65/EU, 2014/30/EU, 2014/35/EU voldoen.

SV. EU NORM CERTIFIKAT

CALPEDA S.p.A. intygar att produkterna IDROMAT, typ och serienummer, visade på namnplåten är konstruerade enligt direktiv 2011/65/EU, 2014/30/EU, 2014/35/EU. Calpeda åtar sig fullt ansvar för överensstämmelse med standard som fastställts i dessa avtal.

GR. ΔΗΛΩΣΗ ΣΥΜΦΩΝΙΑΣ

Εμείς ως CALPEDA S.p.A. δηλώνουμε με αποκλειστικά δική μας ευθύνη ότι τα προϊόντα IDROMAT, με τύπο και αριθμό σειράς κατασκευής όπου αναγράφετε στην πινακίδα της αντλίας, κατασκευάζονται σύμφωνα με τις οδηγίες 2011/65/EU, 2014/30/EU, 2014/35/EU, και αναλαμβάνουμε πλήρη υπευθυνότητα για συμφωνία (συμμόρφωση), με τα στάνταρς των προδιαγραφών αυτών.

RU. ДЕКЛАРАЦИЯ СООТВЕТСТВИЯ

Компания Calpeda S.p.A. заявляет с полной ответственностью, что изделия IDROMAT, тип и серийный номер которых указывается на заводской табличке соответствуют требованиям нормативов 2011/65/EU, 2014/30/EU, 2014/35/EU.

Montorso Vicentino, 03/2022

CALPEDA S.p.A.
Il Presidente
Marco Mettifogo



UK DECLARATION OF CONFORMITY

Manufacturer's Name: Calpeda S.P.A.

Address: Via Roggia di Mezzo 39, 36050 Montorso Vicentino (VI) Italy

We Calpeda S.P.A. declare that:

the undersigned company certifies under its sole responsibility that the pumps specified below satisfy the following requirements of UK regulations.

Products Models : IDROMAT

UK Regulations:

Supply of Machinery (Safety) Regulations 2008

Electrical Equipment (Safety) Regulations 2016

Electromagnetic Compatibility Regulations 2016

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Applicable designated standards:

BS ISO 12100:2010; BS 809:1998+A1:2009

BS 60335-1:2012/A2:2019; BS 60335-2-41:2003/A2:2010

BS 55014-1:2017; BS 55014-2:2015; BS 61000-3-2:2014; BS 61000-3-3:2013/A1:2019

Person authorised to compile the technical file:

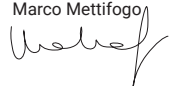
Mettifogo Marco

Calpeda S.p.A.

Via Roggia di Mezzo 39, 36050 Montorso Vicentino (VI) Italy

Montorso Vicentino - Italy – 02 March 2022

CALPEDA S.p.A.
Il Presidente
Marco Mettifogo





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