

EN

**OPERATING INSTRUCTIONS**

**QEM**



**QET**



**CONTROL BOXES FOR 4" BOREHOLE PUMPS**

**MADE IN ITALY**



**PEDROLLO S.p.A.**

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COMPANY WITH  
ENVIRONMENTAL SYSTEM  
CERTIFIED BY DNV  
= ISO 14001 =

COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV  
= ISO 9001 =

## 1. SYMBOLS AND WARNINGS

The symbols below indicate hazardous situations that may arise if the prescriptions provided in this use and maintenance manual are not fulfilled.



This warning sign is used when there is a danger of death and to indicate an hazardous situation which may result in severe injuries or damage of goods. Follow the prescriptions carefully when you see this danger sign.



This warning sign is used when there is a danger of death and to indicate an hazardous situation which may result in severe injuries or damage of goods. Caution is requirede.



The instructions provided with this sign must be followed to avoid malfunction and damage to the equipment and prevent injury to personnelrator.



Cut off the power supply before working on the electrical panel or on to the system.



The electrical panel must be connected by a qualified electrician according to the electrical regulations in force.



Connect to an efficient earthing system before executing any other work.



After the system is connected check the settings of the electrical panel since the electrical pump may start automatically.

## 2. GENERAL INFORMATION

This manual must always accompany the relevant equipment and be conserved in an accessible location for consultation by qualified technicians assigned for operation and maintenance of the system.

The installer/user is strongly recommended to read carefully all instructions and information in this manual before using the product, in order to avoid damage or improper use of the unit, which would also affect the warranty as null and void.

Before operating the equipment, carefully read the manual and follow all instructions herein. The information and instructions in this manual refer to the standard use of this product; in the event of special circumstances, functions or applications not described in this document, contact our service centre for assistance.

If technical assistance or spare parts are required, when contacting the manufacturer always specify the identification code of the model and construction number as stated on the data plate.

Our service centre is available for any requirement or clarification.

The electrical equipment supplied must be installed indoors in a well-ventilated environment, within a temperature range of -5° to +40°C.

## 3. WARNINGS

On receipt of the goods, perform an inspection immediately to ensure that the equipment has not been damaged during transport.

The QEM/QET electrical panels must be used exclusively for the purpose and function as specified in design. Any other application or use is to be considered improper and therefore hazardous.



All QEM/QET panel installation and maintenance operations must be performed by a specialized technician who is fully aware of the relevant current safety standards.

Always disconnect the unit from the power supply before maintenance or cleaning.

If QEM/QET is not used for prolonged periods, store the product in a clean and safe location protected against atmospheric agents and the potential risk of dropping/falling.



In the event of a fire in the place of installation or the surrounding area, avoid the use of water jets and use the appropriate extinguishing equipment and means (powder, foam, carbon dioxide).



Install the equipment far from heat sources and in a dry and sheltered location in observance of the stated protection rating (IP). The installation of a safety device is recommended to protect the panel power line in compliance with current electrical standards.

## 4. GENERAL DESCRIPTION (TECHNICAL CHARACTERISTICS)

- Power supply 1~50/60 Hz 230V  $\pm$ 10% (QEM);
- Power supply 3~50/60 Hz 400V  $\pm$ 10% (QET);
- Main Switch ON/OFF (QEM only)
- Main Switch MANUAL/OFF/AUTOMATIC (QET only)
- Motor overcurrent protection
- Green led: Motor active (ON);
- Red led: Thermal relay protection active (QET only);
- Input for float / pressure switch (QET only);
- Fuses with aM tripping curve (QET only);
- Box in ABS, IP55;
- Ambient temperature: -5/+40 °C;
- Relative humidity 50% at 40 °C (condensate free).

## 5. INSTALLATION

Ensure that the main power supply specifications corresponds to the voltage specified on the data plate of the electrical panel and motor connected, then make the earthing connection before all other connections.

QEM → 230V  $\pm$  10% 50Hz

QET → 400V  $\pm$  10% 50Hz

The power line must be protected by a residual current breaker. Tighten the electrical cables on the relative terminals using a suitable tool correctly sized to avoid the risk of damage to the fixing screws. Take care if using an electric screwdriver.

## 6. LUMINOUS INDICATORS AND CONTROL COMMANDS

### QEM

By turning the main switch to position (1), the control box starts the pump and turns on the green led. The pump will remain in operation until the main switch is not turned in the position (0).

If an overload occurs in the water pump's motor, the intervention of the thermal protection stops the pump and turn off the led. The intervention of the protection is showed when the thermal protection button drops out. To restore the functioning of the control box after the intervention of the protection press the button down.

### QET

By turning the main switch to the MAN position, the control box starts the pump in manual mode. green led goes out indicating that the water pump is running. The pump will remain on until the main switch is not turned to the 0 position.

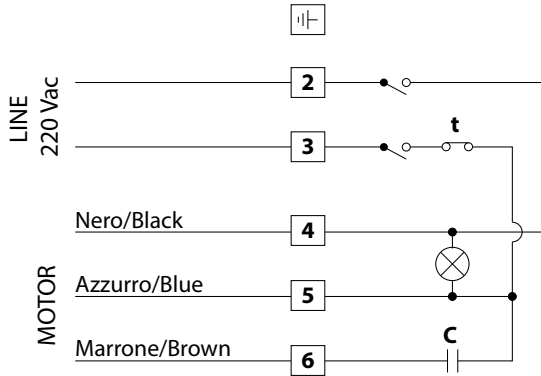
By turning the main switch to the AUT position, the control box activates the pump only if the contact wired to the P-P terminals is closed. The pump will remain on until the main switch is not turned to the position (0) or until P-P contact is not opened.

The amperometric relay will stop the waterpump during a situation of overloading of the motor. It will turn off the green led and the red led goes out to show the tripping. To restore the operation of the control box after the intervention of the protection, turn the main switch to position (0), open the control box, and press down the RESET button.

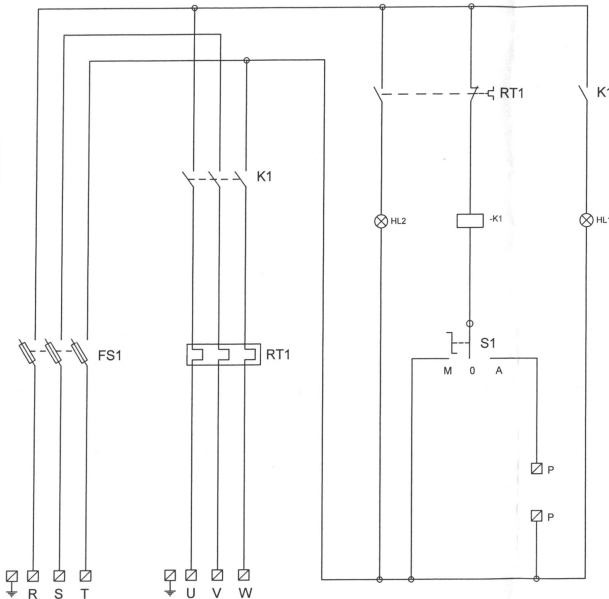
The automatic reset of the protection can be set by pressing down the reset button and turning it ¼ turn clockwise (not recommended).

## 7. STANDARD CIRCUIT DIAGRAMS

### QEM



### QET



- R-S-T Alimentazione 400V 50/60Hz  
Line 400V 50/60Hz
- U-V-W Motore  
Motor
- P-P Pressostato o galleggiante  
Pressure switch or regulator level
- RT1 Relè termico  
Thermal relay
- FS1 Fusibile  
Motor protection fuses
- K1 Contattore motore  
Motor contactor
- S1 Selettore  
Selector AUT-OFF-MAN
- HL1 Lampada marcia  
Green led for motor operating
- HL2 Lampada blocco  
Red led for motor protection alarm

## 8. GENERAL CONDITIONS

### Warranty

The product warranty is subject to the general terms of sale of the Pedrollo S.p.a company. Acknowledgement of the warranty depends on the strict and proven fulfilled of the operating instructions in this booklet and application of the correct mechanical, hydraulic and electro-technical practices.

All products are covered by a warranty valid for 24 months, which covers all construction defects of our products and includes the replacement/repairs of defective parts

The warranty will not be deemed valid in the event of:

- tampering with the panel (modifications without prior authorisation);
- faults due to lack of or inadequate protection and/or connection errors;
- faults caused by exceeding data plate specifications;
- normal wear and tear;
- failure by installation personnel to observe the specified operating procedures;
- accidental causes, natural disasters of any kind, such as fires, flooding, water or lightning;

The defective material must be delivered carriage paid to Pedrollo S.p.A., who reserves the right to final judgement of the cause of the said defects.

The Warranty applies exclusively to restoring the original product characteristics and does not cover material damage or physical injury.

### Maintenance

QEM/QET does not require routine maintenance provided that it is used within the operating limits and in observance of the instructions in this manual.

Special maintenance or repairs must be performed exclusively by authorized service centers. In the event of repairs, only original spare parts must be used.

The manufacturer declines all liability for material damage or injury to persons or animals caused by maintenance interventions performed by unauthorized personnel or using non-original materials.

### Disposal

In the event of disassembly and scrapping, strictly observe local legislation regarding pollution.

Waste disposal according to material categories is recommended.

# DECLARATION OF CONFORMITY

**PEDROLLO S.p.A.**  
Via E. Fermi, 7  
37047 - San Bonifacio (VR)

hereby declares, under its sole responsibility, that the machine:

Trade mark **PEDROLLO**  
**QEM** and **QET** series

complies with the provisions of the following EU directives and subsequent amendments:

- 73/23/CEE
- 93/68/CEE

in compliance with the following technical standards:

**CEI 17-13/1 (EN 60439-1)**  
**CEI 70-1 (EN 60529)**  
**CEI 44-5 (EN 60204-1)**  
**EN 60335-1/95**

San Bonifacio, 10/07/2013

**PEDROLLO S.p.A.**

Il Presidente

Silvano Pedrollo





**PEDROLLO S.p.A.**

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