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PQWT PQ125C

PQWT PQ125C Underground Water Leak Detector Instruction Manual

Model: PQ125C | Brand: PQWT

1. INTRODUCTION

The PQWT PQ125C is an advanced underground water leak detector designed for precise localization of leaks in pressurized pipelines. It features a user-friendly touchscreen interface, high-precision sensors, and intelligent analysis capabilities, making it suitable for both indoor and outdoor environments. This manual provides detailed instructions for the setup, operation, and maintenance of your PQWT PQ125C device.

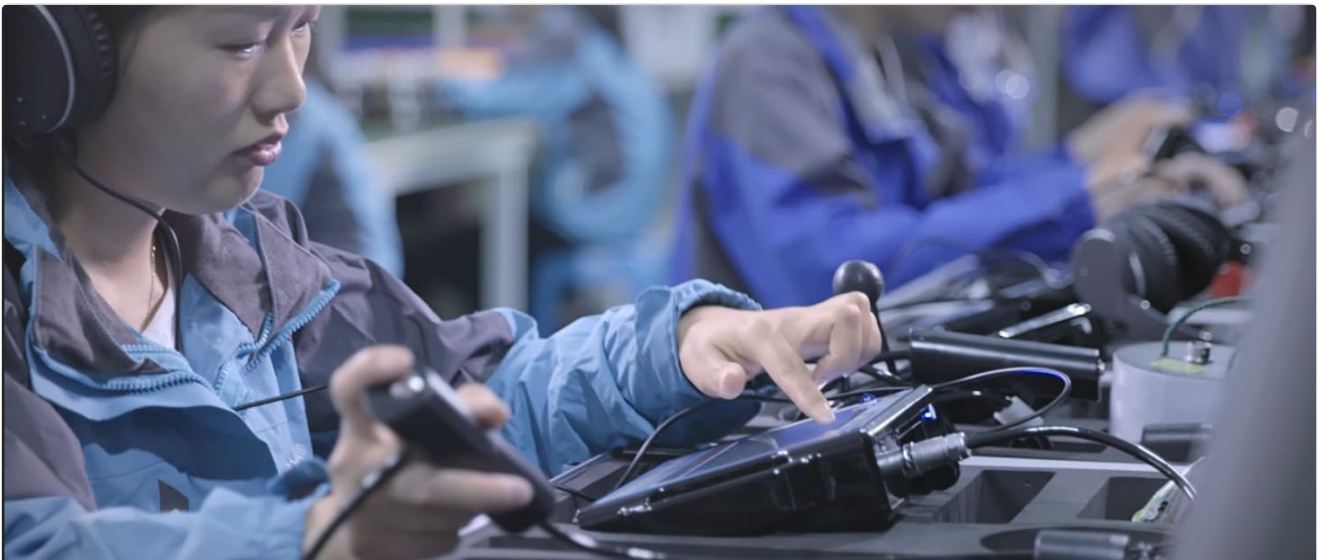


Image: PQWT PQ125 Series Water Leak Detector, showcasing the main unit and various sensors.

2. PACKAGE CONTENTS

The PQWT PQ125C kit includes the following components:

- Host Machine (Main Unit with Touchscreen)
- Control Handle

- Two Dual-Membrane Resonance Sensors (DMR-H40 & DMR-V59)
- Acoustic Cavity Re-Vibration Sensor (RC-S3)
- Noise-Reduction Headphones
- Listening Rod
- Shoulder Strap
- Charger
- USB Data Cable
- Carrying Case

PRODUCT SPECIFICATIONS



Image: All components of the PQWT PQ125C kit laid out, including the host machine, sensors, headphones, and accessories.

Video: An unboxing video demonstrating the contents of the PQ125 Series Pipe Water Leak Detector package.

3. PRODUCT FEATURES

- **Simple Operation:** Factory-developed UI interaction system with touchscreen display, operational guidance, and error pop-ups for ease of use.

- **Precise Localization:** Two leak detection modes (General Detection and Location Mode) to quickly scan large areas and pinpoint exact leak points by comparing signal strengths.
- **High-Precision Sensors:** Equipped with two DUAL MEMBRANE RESONANCE SENSORS (DMR-H40 & DMR-V59) and an RC-S3 ACOUSTIC CHAMBER RESONANCE SENSOR, suitable for various indoor and outdoor environments.
- **Advanced Technology:** Incorporates AI-enhanced assistance, dual-membrane resonance, acoustic cavity re-vibration, time-domain waveform dynamic display, sound-intensity focusing, multi-dimensional feature extraction, and Edge-AI intelligent analysis.



Image: The PQWT PQ125C main unit with its touchscreen display and an attached sensor, demonstrating its use in an urban environment.



TOP-LEVEL ACOUSTIC SENSOR

Built-in preamplifier circuit with superior noise-capturing capability compared to similar products

Image: A close-up of the top-level acoustic sensor, highlighting its built-in preamplifier circuit for superior noise-capturing capability.

Video: A product introduction video for the PQWT PQ125C, detailing its eight core technologies and features.

4. SETUP

Follow these steps to set up your PQWT PQ125C Water Leak Detector:

1. **Attach Shoulder Strap:** Connect the host machine to the shoulder strap for comfortable carrying during operation.
2. **Connect Control Handle:** Open the host machine's aviation connector cover, insert the aviation plug from the control handle into the host machine, and tighten.
3. **Connect Sensor:** Open the sensor's aviation connector cover, insert the aviation plug from the control handle into the sensor, and tighten the nut. Select the appropriate sensor (DMR-H40, DMR-V59, or RC-S3) based on the pipe diameter and environment.
4. **Connect Headphones:** Plug the headphones into the headphone jack on the host machine.
5. **Power On:** Press and hold the power switch on the main unit for 3-5 seconds to turn it on. The system will boot up and display the main interface.



LOCATION MODE

The screen displays the information collection box of points, that is, the signals of points are collected and retained on the screen, which is convenient for comparing the signal strength of each point, so as to determine the leak location.

Image: Visual guide showing the assembly steps for the PQWT PQ125C, including connecting the strap, control handle, sensor, and headphones.

5. OPERATING INSTRUCTIONS

The PQWT PQ125C offers different detection modes for various scenarios.

5.1 General Detection Mode

This mode is used for quickly scanning large areas to identify potential leak locations.

1. Place the sensor on the ground directly above the suspected pipeline.
2. Using the control handle, adjust the volume and gain settings as needed (e.g., Volume to 5, Gain to 3).
3. Press the control handle switch to start leak monitoring. Stay at each point for approximately 8-10 seconds.
4. Move the sensor along the pipeline in 1-meter increments (for outdoor) or 0.5-meter increments (for indoor).
5. Observe the time-domain dynamic waveform on the screen. If the sound differs or becomes louder, and the waveform is continuous with stable amplitude, this location may be a suspected leak.



PQ125C WATER LEAK DETECTOR

Equipped with a multi-sensor configuration, including the dual-membrane resonance sensors DMR-V59 and DMR-H40 and the acoustic resonance sensors RCS-S3, Different models are suitable for different usage scenarios.

Image: The General Detection Mode interface on the PQWT PQ125C, showing a dynamic waveform display.

5.2 Location Mode

After identifying a suspected leak area with General Detection Mode, use Location Mode for precise pinpointing.

1. From the General Detection Mode, tap to enter Location Mode.
2. The screen will display 16 signal collection boxes.

- Place the sensor at the suspected leak point (center) and collect data.
- Move the sensor around the suspected point in all directions (e.g., front, back, left, right) and collect data at multiple points.
- Compare the signal strengths displayed in the boxes. The point with the highest signal strength indicates the exact leak location.

PRODUCT CONFIGURATION



PQ125A

Dual Membrane Resonance Sensors
DMR-V59 and DMR-H40
Headphones
Control Handle



PQ125B

Acoustic Resonance Sensors RCS-S3
Listening Rod
Headphones
Control Handle



PQ125C

Dual Membrane Resonance Sensors
DMR-V59 and DMR-H40
Acoustic Resonance Sensors RCS-S3
Listening Rod
Headphones
Control Handle



PQ125D

Dual Membrane Resonance Sensors
DMR-V59 and DMR-H40
Acoustic Resonance Sensors RCS-S3
and RCS-L6
Listening Rod
Headphones
Control Handle



PQ125E

Dual Membrane Resonance Sensors
DMR-V59 and DMR-H40
Acoustic Resonance Sensors RCS-S3
and RCS-L6
Trace Leak Detection Sensor TLS-H8
Listening Rod
Headphones
Control Handle

Image: The Location Mode interface on the PQWT PQ125C, showing signal strength comparison across multiple points.

5.3 Gas Tracer Detection (If applicable to your model)

For models equipped with gas tracer detection, this method can be used for difficult-to-locate leaks.

- Inject a hydrogen-nitrogen gas mixture (95% nitrogen, 5% hydrogen) into the pipeline.
- Connect the Tracer Leak Detection Sensor (TLS-H8) to the host machine and attach the telescopic rod.
- Press and hold the power button to turn on and enter the main interface. Tap to enter Gas Detection mode.
- Wait for the sensor to warm up for 3 minutes, then tap "Confirm" and reset the sensor data.
- Adjust the telescopic rod to a suitable length and move the Tracer Leak Detection Sensor close to the ground in a sweeping motion.
- When the sensor detects leakage gas, the signal bar and value will change. The closer to the leak, the higher the value; farther away, the value decreases.
- Note: Gas can only penetrate to the surface through permeable materials, so the highest reading point is not always the exact leak location. For higher accuracy, combine with Outdoor Detection mode.



THE PQ125 SERIES WATER LEAK DETECTOR

Is a next-generation intelligent device independently developed by PQWT, specifically designed for detecting leaks in pressurized pipelines. Suitable for both indoor and outdoor environments, it achieves precise localization by capturing and analyzing leak sound signals, effectively addressing the challenges of detecting leaks in pressurized pipelines.

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Image: The Gas Tracer Detection interface on the PQWT PQ125C, showing gas concentration readings.

Video: A detailed operation video for the PQ125 Series Water Leak Detector, demonstrating both outdoor and indoor detection modes.

6. APPLICATION SCENARIOS

The PQWT PQ125C is suitable for detecting leaks in a wide range of pressurized pipeline systems, including:

- Municipal water supply pipelines (outdoor)
- Fire-fighting pipelines
- Underground pressure pipelines
- Heating and radiator pipelines
- Underfloor heating networks
- Household fresh-water plumbing systems
- Other pressurized pipeline scenarios

7. PRODUCT SPECIFICATIONS

Feature	Detail
Model	PQ125C
Color	PQ125C-Orange
Product Dimensions (L x W x H)	8"L x 12"W x 15"H
Number of Batteries	2 Nonstandard Battery batteries required (included)
Built-In Media	Host, Headphones, Charger, USB Data Cable, Strap, Control Handle, Listening Rod, DMR-H40 sensor, DRM-V59 sensor, RCS-S3 sensor, Carry case
Working Temperature	-20°C to 50°C
Working Time	<8 hours
Measurement Depth	3m
Frequency Acquisition/Adjustment Range	Indoor: 600Hz-15KHz, Outdoor: 20Hz-5KHz

8. MAINTENANCE

To ensure the longevity and optimal performance of your PQWT PQ125C, follow these maintenance guidelines:

- Keep the device clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Store the device and its accessories in the provided carrying case when not in use to protect them from damage.
- Avoid exposing the device to extreme temperatures, direct sunlight, or moisture for prolonged periods.
- Ensure all connectors are clean and dry before connecting them to prevent electrical issues.
- Charge the batteries regularly, even if the device is not in frequent use, to maintain battery health.

9. TROUBLESHOOTING

If you encounter issues with your PQWT PQ125C, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on	Low battery; Power button not pressed long enough	Charge the device; Press and hold the power button for 3-5 seconds
No sound from headphones	Headphones not properly connected; Volume too low	Ensure headphones are fully plugged in; Increase volume using control handle
Inaccurate readings	Incorrect sensor selection; High environmental noise; Improper sensor placement	Select appropriate sensor for pipe size/environment; Adjust gain; Ensure firm contact with surface
Screen unresponsive	System error; Device frozen	Press the reset button (RST); Power off and restart the device

10. WARRANTY AND SUPPORT

The main unit of the PQWT PQ125C comes with a two-year warranty and lifetime maintenance. For technical support, service, or warranty claims, please contact PQWT customer service through their official channels.

The device interface is available in 12 languages: English, Turkish, Italian, French, Spanish, Arabic, Russian, Korean, German, Portuguese, Polish, and Vietnamese.