**Rain Bird PC12**

# Rain Bird PC12 Pressure-Compensating Emitter Instruction Manual

Model: PC12

## 1. Product Overview

The Rain Bird PC12 is a pressure-compensating emitter designed for efficient and uniform water delivery in drip irrigation systems. This brown module is engineered to provide a consistent flow rate of 12 Gallons Per Hour (GPH) across a wide range of operating pressures, ensuring that all plants receive the same amount of water regardless of their position in the irrigation line or changes in system pressure.

Its compact and unobtrusive design, featuring barb inlets and outlets, allows for secure retention of 1/4-inch distribution tubing, making it an ideal component for precise and reliable watering.



**Figure 1:** Rain Bird PC12 Pressure-Compensating Emitter. This image shows the brown plastic emitter with barb connections on top and a pointed black base for insertion into tubing or soil.

## 2. Specifications

| Attribute | Detail |
|---|---|
| Model Number | PC12 |
| Flow Rate | 12 GPH (Gallons Per Hour) |
| Operating Pressure Range | 10 to 50 PSI (0.7 to 3.5 bar) |
| Material | Plastic |
| Color | Brown |
| Dimensions (L x W x H) | Approximately 1 x 1 x 1 inches |

| | |
|---|---|
| Connector Type | Barb (for 1/4" distribution tubing) |
| Weight | Approximately 0.16 ounces (4.54 g) |
| Manufacturer | Rainbird |
| UPC | 753810002572 |

## 3. Setup and Installation

The Rain Bird PC12 emitter is designed for easy integration into new or existing drip irrigation systems. Follow these steps for proper installation:

1. **Prepare Tubing:** Ensure your 1/4-inch distribution tubing is clean and free of debris. For easier insertion, you may briefly warm the end of the tubing in warm water.
2. **Punch Hole (if applicable):** If inserting directly into a larger main line (e.g., 1/2-inch or 3/4-inch poly tubing), use a specialized punch tool to create a clean, appropriately sized hole.
3. **Insert Emitter:** Firmly push the barb inlet of the PC12 emitter into the prepared hole in the main line or directly into the end of the 1/4-inch distribution tubing. Ensure a snug fit to prevent leaks.
4. **Connect Distribution Tubing:** Attach the 1/4-inch distribution tubing to the barb outlet of the PC12 emitter. Push the tubing firmly onto the barb until it is securely seated.
5. **Secure Emitter:** If the emitter is not directly inserted into a main line, you may use a stake (not included) to secure the 1/4-inch tubing and the emitter near the plant to prevent displacement.
6. **Flush System:** Before connecting all emitters, it is recommended to flush the main line to remove any dirt or debris that could clog the emitters.

***Important:*** *Always ensure the water supply is turned off before performing any installation or maintenance.*

## 4. Operating Principles

The Rain Bird PC12 emitter is a pressure-compensating device, meaning it maintains a consistent flow rate of 12 GPH even when the water pressure in your irrigation system fluctuates within its operating range (10 to 50 PSI). This feature is crucial for:

- **Uniform Watering:** Ensures that all plants connected to the drip system receive the same amount of water, regardless of their elevation or distance from the water source.
- **Efficiency:** Prevents overwatering or underwatering, leading to healthier plants and reduced water waste.
- **System Flexibility:** Allows for longer drip lines and more complex system designs without significant variations in water delivery.

Once installed, the emitter automatically regulates the flow. No manual adjustments are required for its operation.

## 5. Maintenance

Proper maintenance ensures the longevity and optimal performance of your Rain Bird PC12 emitters and the entire drip irrigation system. While the emitters themselves require minimal maintenance, consider the following:

- **Regular Inspection:** Periodically check emitters for consistent flow. Look for signs of clogging, leaks, or physical damage.
- **System Flushing:** Flush your drip irrigation lines annually or semi-annually, especially after periods of non-use, to

remove sediment and debris that can accumulate and cause clogging. This typically involves opening the end caps of the main lines.

- **Water Filtration:** Install and maintain a suitable filter at the head of your irrigation system to prevent particulate matter from entering and clogging the emitters. Clean or replace filter cartridges as recommended by the filter manufacturer.
- **Chemical Treatment (if necessary):** If you experience mineral buildup (e.g., calcium) or algae growth, consult with an irrigation specialist for appropriate chemical treatments that are safe for your drip system components.
- **Winterization:** In colder climates, properly winterize your drip system to prevent freezing and damage to emitters and tubing. This usually involves draining all water from the lines.

## 6. Troubleshooting

If you encounter issues with your Rain Bird PC12 emitters, consider the following common problems and solutions:

| Problem | Possible Cause | Solution |
|---|---|---|
| No water or very low flow from emitter | • Clogged emitter<br>• Insufficient water pressure<br>• Kinked or blocked tubing<br>• Filter is clogged | • Remove and inspect emitter for debris. If heavily clogged, replace.<br>• Check main water supply and pressure regulator. Ensure pressure is within 10-50 PSI.<br>• Inspect tubing for kinks or blockages. Flush the line.<br>• Clean or replace the system filter. |
| Leaking at emitter connection | • Improperly seated barb connection<br>• Damaged tubing or emitter barb<br>• Excessive water pressure | • Ensure tubing is pushed firmly onto the barb.<br>• Inspect tubing and emitter for cracks or damage. Replace if necessary.<br>• Verify pressure regulator is functioning correctly and pressure is within limits. |
| Inconsistent flow between emitters | • Some emitters are clogged<br>• Pressure outside operating range<br>• Incorrect emitter type used (non-pressure compensating) | • Inspect and clean/replace clogged emitters.<br>• Check system pressure. Ensure it is between 10-50 PSI.<br>• Verify all emitters are indeed pressure-compensating PC12 models. |

If problems persist after troubleshooting, contact Rain Bird customer support or a qualified irrigation professional.

## 7. Warranty and Support

Rain Bird products are manufactured to high-quality standards. For specific warranty information regarding your PC12 emitter, please refer to the official Rain Bird website or contact their customer service directly. Keep your proof of purchase for warranty claims.
For further assistance, technical support, or to find authorized dealers, please visit the official Rain Bird website or use the contact information provided in their general product documentation.

**Rain Bird Official Website:** www.rainbird.com

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