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Watts DET-12-M1

Watts DET-12-M1 Potable Water Expansion Tank User Manual

Model: DET-12-M1

Brand: Watts

1. INTRODUCTION

The Watts DET-12-M1 Potable Water Expansion Tank is engineered to manage thermal expansion water pressure within open, domestic hot water supply systems. This critical function helps prevent potential damage to your plumbing system by safely absorbing the increased water volume that occurs during heating cycles. Proper installation and maintenance ensure the longevity and efficiency of your water heater and associated plumbing components.

2. SAFETY INFORMATION

Read all instructions carefully before installation and operation. Failure to follow these instructions may result in property damage, personal injury, or death.

- Always turn off the water supply and drain the system before attempting any installation or maintenance.
- Wear appropriate personal protective equipment, including safety glasses and gloves.
- Ensure all connections are secure and leak-free.
- Do not exceed the maximum working pressure specified for the tank.
- If you are unsure about any step, consult a qualified plumber.

3. PRODUCT OVERVIEW

The Watts DET-12-M1 expansion tank features a durable construction designed for potable water applications. It includes an internal diaphragm that separates the system water from a pre-charged air cushion, allowing it to absorb expanded water volume.



Image: Watts DET-12-M1 Potable Water Expansion Tank. This image shows the white cylindrical tank with its threaded connection point, illustrating its compact design for integration into plumbing systems.

Key Features:

- **Thermal Expansion Control:** Effectively manages water expansion in domestic hot water systems.
- **System Pressure Protection:** Helps maintain system pressure below the relief-valve setting by absorbing excess water volume.
- **Extended Water Heater Life:** Contributes to a longer operational life for various types of direct-fired water heaters.
- **Compact Design:** Measures approximately 15.2 x 11.2 x 11.2 inches for convenient installation.

4. SPECIFICATIONS

Specification	Value
Brand	Watts
Model Number	DET-12-M1

Specification	Value
Product Dimensions	11.2"W x 15.2"H
Color	White
Item Weight	5.1 pounds
Capacity	2.1 Gallons
Mounting Type	Floor (or wall-mounted with appropriate bracket, not included)
UPC	098268167313

5. INSTALLATION

Proper installation is crucial for the effective operation of your expansion tank. It is recommended to install the tank on the cold water supply line to the water heater.

Pre-Installation Checks:

- **Determine System Pressure:** Before installation, measure your domestic water system's static pressure using a pressure gauge.
- **Pre-Charge the Tank:** The expansion tank comes pre-charged from the factory. However, it is essential to adjust the tank's air pressure to match your system's static water pressure. Use an air pump and a pressure gauge (similar to a tire gauge) on the Schrader valve located at the bottom of the tank. *This adjustment must be done BEFORE connecting the tank to the plumbing system.*

Installation Steps:

1. Turn off the main water supply to your home and the water heater.
2. Drain a small amount of water from a hot water faucet to relieve pressure in the system.
3. Locate a suitable position on the cold water supply line to the water heater. The tank can be installed vertically or horizontally, but vertical installation with the air valve facing down is often preferred for drainage.
4. Install a tee fitting into the cold water supply line.
5. Apply PTFE (Teflon) tape or pipe thread sealant to the threads of the expansion tank's connection.
6. Thread the expansion tank onto the tee fitting. Hand-tighten, then use a wrench to tighten an additional 1 to 2 turns. Do not overtighten.
7. Slowly turn the main water supply back on and check for leaks at all connections.
8. Turn on the water heater.

6. OPERATION

Once installed, the Watts DET-12-M1 expansion tank operates passively. As water in your hot water heater heats up, it expands. This expanded water volume is directed into the expansion tank, compressing the air cushion within the tank's diaphragm. When hot water is drawn from the system, the pressure drops, and the compressed air pushes the water back into the plumbing system. This continuous cycle prevents excessive pressure buildup and protects your water heater and fixtures.

7. MAINTENANCE

Regular maintenance ensures optimal performance and extends the life of your expansion tank.

- **Annual Pressure Check:** At least once a year, check the air pressure in the expansion tank. Turn off the water supply to the tank and drain the system pressure before checking the air valve. Adjust the pressure to match your system's static water pressure if necessary.
- **Inspect for Leaks:** Periodically inspect the tank and connections for any signs of water leaks.
- **Diaphragm Integrity Check:** If water comes out of the air valve when depressed, it indicates that the internal diaphragm has failed, and the tank needs to be replaced.

8. TROUBLESHOOTING

This section addresses common issues you might encounter with your expansion tank.

Problem	Possible Cause	Solution
Pressure relief valve on water heater frequently discharges water.	Expansion tank is undersized, improperly charged, or has a failed diaphragm.	Check tank's air pressure and adjust if necessary. If water comes from air valve, replace tank. Ensure tank size is appropriate for water heater capacity.
High water pressure spikes in the hot water system.	Expansion tank is not functioning correctly (e.g., low air charge, failed diaphragm).	Verify and adjust the tank's air pre-charge. If the diaphragm is compromised, replace the tank.
Water leaks from the expansion tank's air valve.	Internal diaphragm has failed.	The expansion tank must be replaced.
Tank feels heavy and full of water.	Air charge is lost, or diaphragm has failed, allowing water to fill the air chamber.	Check air pressure. If no air can be added or water comes out, replace the tank.

9. WARRANTY AND SUPPORT

Watts products are manufactured to high-quality standards. For specific warranty details, please refer to the documentation provided with your purchase or visit the official Watts website. Keep your proof of purchase for warranty claims.

For technical assistance, replacement parts, or further inquiries, please contact Watts customer support through their official channels. Always provide your product model number (DET-12-M1) when seeking support.