

# Mekanism Fission Reactor | ATM10

The Fission Reactor is a multiblock structure, in the Mekanism mod, used to generate large amounts of power by burning nuclear fuel. It produces heat which converts water into steam for power generation, and generates nuclear waste as a by-product.

## Requirements

### Reactor Components

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- Fission Reactor Casing
- Fission Reactor Port
- Fission Fuel Assembly
- Control Rod Assembly
- Reactor Glass (optional)

### Supporting Systems

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#### Coolant Supply

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A constant water source is required. Options include:

- Sink (recommended)
- Mechanical Pipes (the longer the pipes, the more water is available to pump into the multiblock)
- Eternal Water Block (EvilCraft)

#### Fuel Production

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Fission Fuel must be produced through a chemical chain:

Uranium → Uranium Hexafluoride → Fission Fuel

Required machines:

- Chemical Oxidizer

- Chemical Infuser
- Isotopic Centrifuge

## Waste Handling

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- Pressurized Tubes
- Radioactive Waste Barrel (temporary storage)

## Structure

## Construction Steps

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### 1. Build the Outer Casing

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To begin, construct a **5x5x5 hollow cube** using Fission Reactor Casing. 5x5x5 is the smallest a Fission Reactor can be.

### 2. Install Internal Components

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Inside the structure:

- Place **Fission Fuel Assemblies** vertically
- Place **Control Rod Assemblies** directly on top of each fuel assembly

### 3. Add Ports

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Install the following ports on the reactor casing:

- Fuel Input Port
- Coolant Input Port
- Steam Output Port
- Waste Output Port

Additional ports can be added as needed.

### 4. Optional: Reactor Glass

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Replace casing blocks with Reactor Glass for visibility into the reactor interior. The corners of the reactor must be casing blocks to allow for the multiblock to take shape.

## Setup

## Connections

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Connect each port on the reactor casing to its corresponding system using Mechanical Pipes or Pressurized Tubes as appropriate.

Port	Connection
Coolant Input Port	Connect to your water supply. Ensure constant flow at all times.
Fuel Input Port	Pipe Fission Fuel in from your fuel production chain.
Steam Output Port	Extract steam and route it to an Industrial Turbine for power generation.
Waste Output Port	Extract nuclear waste continuously. Store in Radioactive Waste Barrels or process further.

## Activation

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1. Enable the reactor.
2. Confirm water is flowing.
3. Confirm waste output is connected.

## Power Increase

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Gradually increase the burn rate. Increasing it too fast can cause the reactor to explode.

## Recommended Operating Range

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- Temperature: below 800 K
- Burn Rate: 0.5–2.0 mB/t (early setup)

## Power Generation

### Industrial Turbine (Recommended)

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- Converts steam into energy efficiently
- Required for optimal performance

Without a turbine, most generated energy is wasted.

## Safety

### Meltdown Causes

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- Insufficient coolant
- Excessive burn rate
- Waste backup
- Blocked output systems

### Safety Guidelines

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- Maintain constant water supply
- Ensure waste is continuously removed
- Increase burn rate gradually
- Monitor reactor temperature

## Scaling

### Increase Output

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- Increase burn rate slowly
- Add more fuel assemblies
- Expand reactor size (e.g.  $7 \times 7 \times 7$  or larger)

## Common Mistakes

- Activating reactor at high burn rate
- Failing to supply enough coolant
- Ignoring waste management
- Not using a turbine

## Recommended Starter Setup

- 5×5×5 reactor
- 4-6 fuel assemblies
- Burn rate ~1.0 mB/t
- Connected industrial turbine
- Infinite water source

#### Guide

### [AllTheModium Ores Guide](#)

ATM10 features a tier progression system of unique ores beyond Netherite. This guide shows you where to find them, and how to use them.

#### Guide

### [SiriusMC's ATM Star Guide](#)

SiriusMC's guide to obtaining the ATM star.

#### Introduction

### [Introduction](#)

An introduction into ATM10, including how to get started and what mods are featured.

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